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ABSTRACT

The status of Chicanos in U.S. higher education was studied as part of an investigation of four disadvantaged racial/ethnic minorities. Attention was directed to: recent rates of educational access and attainment and factors influencing educational outcomes; trends in choice of major fields and career plans; representation in various fields; perspectives and employment experience of Chicano faculty members; demographic characteristics of Chicanos; and features of educational institutions and programs affecting the progress of Chicanos. A historical overview includes the origins of the Chicano Southwest. Data were obtained from a 9-year Cooperative Institutional Research Program study of 1971 freshmen and from surveys of Chicano educators and Ford Foundation Fellows. Findings include the following: the high school attrition rate for Chicanos ranges between 45-50 percent; in 1971, about two in five Chicanos entered college immediately after high school; from one-fourth to one-third completed a baccalaureate; and their rate of doctorate attainment is substantially lower than that of whites. Recommendations are offered for precollegiate education, community colleges, support services, financial aid, bilingualism, and minority women. A classification of major fields is appended. (SW)

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CHICANOS IN HIGHER EDUCATION:

PROGRESS AND ATTAINMENT

Helen S. Astin and Cecilia P. Burciaga

Higher Education Research Institute

Los Angeles, California

November 1981

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HERI staff members Patricia McNamara, Melanie Williams, and Kenneth Green also contributed to this report by taking major responsibility for data collection and analysis in the study of disadvantaged minorities, of which the study of Chicanos constituted one part. Laura Kent provided expert editing, and Margo King coordinated the production of the entire manuscript.

With thanks to all our friends and colleagues, we hope that this report will prove to be of assistance to those educators and policymakers who are concerned with increasing the participation of minorities in higher education.

Chapter 1

INTRODUCTION

This report focuses on the findings for Chicanos that emerged from a project on the status of disadvantaged racial/ethnic minorities in higher education in the United States. Funded by the Ford Foundation and conducted by the Higher Education Research Institute (HERI), the project was designed to examine the recent progress, current status, and future prospects of Blacks, Chicanos, Puerto Ricans, and American Indians in higher education and to formulate recommendations aimed at furthering the educational development of these groups so that they will be able to share the benefits now enjoyed chiefly by the white majority and to have greater access to positions of leadership and influence in American society. These four groups were chosen for study because they are the largest and the most educationally disadvantaged of the racial/ethnic minorities and because historically their incorporation into U.S. society was based on coercion rather than free choice.

During the fall of 1978, when the project was in the planning stage, the Higher Education Research Institute and the Ford Foundation jointly selected a National Commission to serve as advisory board and policy arm for the project. The Commission was structured to include at least one member of each of the four minority groups studied and to represent various areas--academic, public, and private--of national life. The Commissioners were: O. Meredith Wilson (chair), Alexander W. Astin (study director), Frank Bonilla, Cecilia Preciado Burciaga, Yvonne Brathwaite Burke, Albert E. Hastorf, Calvin B. T. Lee, Alfonso A. Ortiz, and Stephen J. Wright.

The major functions of the Commission were to advise the HERI staff concerning proposed and completed studies, to give guidance in the interpretation of findings and the formulation of recommendations, and to assist with the dissemination of both findings and recommendations to policymakers, practitioners, and the general public.

Design of the Study

To provide a strong empirical basis for policy recommendations, the study concentrated on two areas: first, a description of the current and recent situation of the four minority groups with respect to their rates of educational access and attainment; and second, an analysis of the factors that influence the access and attainment of these minority groups. The specific questions addressed were as follows:

- To what extent are Blacks, Chicanos, Puerto Ricans, and American Indians represented at various points in the educational pipeline between secondary school and completion of advanced training? Where are the major leakage points in this pipeline?
- What is the representation of each of these four minority groups by field of study and type of institution?
- How has the representation of each minority group changed since the mid-1960s?
- How are the educational access and attainment of minority students influenced by their family background, socioeconomic status, and personal characteristics?

- What features or characteristics of educational institutions and programs (e.g., type of high school, type of higher education institution, student peer group, faculty attitudes, special institutional programs) are most critical in affecting the progress of minority students?
- How is the progress of minority students affected by the type of financial aid they receive during undergraduate and graduate training?

These questions were approached by means of a series of analyses of empirical data. While considerable use was made of existing data sources, a substantial amount of new data was also collected.

Data Sources

Empirical studies performed by the Commission staff involved the use of several resources, including (1) data from public documents, (2) unpublished data from outside agencies, and (3) data collected especially for the project and, in most cases, involving questionnaire surveys. Data pertaining to the educational access and attainment of minorities were obtained from several public and private sources, including the U.S. Bureau of the Census, the Commission on Civil Rights, the Office for Civil Rights, the National Center for Education Statistics, the National Science Foundation, the National Academy of Sciences--National Research Council, the College Entrance Examination Board--Educational Testing Service, the American College Testing Program, and the Cooperative Institutional Research Program (sponsored by the American Council on Education and the University of California, Los Angeles). These data provided the principal basis for the Commission's analysis of the educational pipeline for minorities

(from the high school years through completion of advanced training), the representation of minorities in different fields, and recent trends in minority representation both by level and by field.

Factors influencing the educational development of minority students were assessed primarily through longitudinal data from the Cooperative Institutional Research Program (CIRP). The principal source for these analyses was a nine-year follow-up of 1971 entering freshmen conducted especially for this project during the spring and summer of 1980. In order to obtain as accurate a picture as possible of the persistence rates of minorities during this nine-year interval, a number of follow-up procedures were used to increase response rates. In addition, data collected in 1977 from a cohort that began college in 1975 were utilized.

Another source of student data, in addition to the longitudinal files just described, involved a national sample of minority students who had received graduate fellowships for doctoral study from the Ford Foundation between 1969 and 1976.

Data on faculty and staff were collected via a national survey of faculty working in the same institutions attended by the 1971 freshman sample and a survey designed to tap the experiences and perceptions of minority educators.

These data on students and faculty were supplemented by additional data on the institutions, including finances, enrollments, physical plant, admission policies, and other environmental information obtained from public and private sources.

Data Analyses

Descriptive studies of the educational access and attainment of minority

undergraduates were obtained from published tabulations of several of the data sources described above as well as through special tabulations of these same data sources conducted by the project staff. Analyses of factors influencing minority students' educational development generally involved a two-stage procedure. In the first stage, an attempt was made to adjust for the fact that students entering different types of institutions and different types of programs are frequently not alike. Thus, initial differences in entering student characteristics--such as demographic factors (sex, race/ethnicity, age), socioeconomic background (parental education, parental income, parental occupation), high school activities and achievements, plans and aspirations, and values and attitudes--were controlled statistically. Then, the second stage in the analysis was performed to estimate the impact of institutional type, financial aid, and other program factors.

Limitations of the Data

It should be emphasized that conclusions based on the Commission's analyses of empirical data must be tempered with the recognition that most of the data sources suffered from various technical limitations. Among the most frequently encountered types of limitations were inadequate racial/ethnic definitions, small samples sizes, nonrepresentativeness, and low response rates to the surveys.

Organization of This Report

The second chapter of this report provides a brief historical overview. Chapter 3 reviews the current status of the total Chicano population, and Chapter 4 discusses the status of Chicanos in higher education. Chapters 5

and 6 discuss the findings on educational and career outcomes of Chicanos attending college in the 1970s. Chapter 7 presents data on Chicano professionals, including faculty. Chapter 8 deals with Chicanos in higher education. The final chapter summarizes the findings and outlines a set of recommendations.

CHAPTER 2

HISTORICAL OVERVIEW

The current socioeconomic and educational status of Chicanos can be understood only in the context of the group's unique history. This chapter, then, gives a brief historical overview.

People of Mexican descent living in the United States have been referred to by a variety of terms: Hispanic, Mexican-American, Mexicano, Spanish-speaking, Latino, Raza, and Chicano. The last term, Chicano, best reflects the group's evolution as a people; not only is it steeped in history, but also it connotes a contemporary political reality for Mexicans in the U.S. The most widely accepted theory of its origin traces the word back to the Spanish conquest of Mexico, when the valley of Mexico was called Mexica (pronounced "Meshica" or "Mejica," with a soft "j") and the natives of the region were called Mexicanos (pronounced Meshicanos). As the Spanish soldiers sent to colonize the New World took native women as wives and mistresses, and as a mestizo (half-Indian, half-Spanish) population developed from these unions, both natives and mestizos came to be called Chicanos. During the late nineteenth and early twentieth centuries, the term was also applied to impoverished Mexicans who migrated northwards and settled in the Southwest. Thus, many Mexican-Americans and Mexicans have regarded the term Chicano as a pejorative, though it found early acceptance among young Mexican-Americans in military service and in the barrios. Not until the 1960s, however, was the term adopted as a source of pride by political and social activists.

Origins of the Chicano Southwest

Spanish colonization of the northernmost territories of Mexico was a dangerous endeavor. Because of the enormous stretches that isolated the first Spanish settlers from the center of Mexico, attracting settlers and maintaining political control over these frontier outposts presented a challenge.

New Mexico was the first, oldest, and most isolated of the northern provinces. Anglo-American encroachment was slow, and New Mexico maintained a large and highly developed Hispanic settlement until 1846. Hispanic settlers were more easily attracted to California because of its coast, benign climate, and fertile land as well as the lure of gold. In Texas, inhospitable Indian tribes made it difficult for the colonial authorities to maintain settlements.

Anglo-Americans settled first in Texas, because of its proximity to the eastern United States. As the number of Americans increased, Hispanic control of the lands north of the Rio Grande weakened. Meanwhile, Mexico was having its own problems. In 1821 Mexico won independence from Spain. By this time, Anglo-Americans had developed an intensive trade with New Mexico via the Sante Fe trail and with California via clipper ships that sailed around Cape Horn.

Initially, Anglo immigrants to Texas agreed to become Mexican citizens, to obey Mexican laws, to accept the Catholic faith, to learn Spanish, and to assimilate. But as the Anglo population grew, these commitments came to be ignored. By 1835, Anglo-Americans outnumbered Mexicans in Texas by six to one (30,000 versus 5,000), and Mexican settlers and landowners were pushed out, often unjustly. The resulting cultural, social, and economic conflicts erupted into the Texas Revolution of 1835. Contrary to popular

belief, this clash was not simply a matter of all Anglo-Americans on one side and all Mexicans on the other; many Mexicans wanted to make Texas an autonomous state and so joined the Anglo-American cause.

Forged after the battle of San Jacinto, the treaty that gave Texas its independence was never recognized by the Mexican government, which regarded the subsequent annexation of Texas by the U.S., in 1845, as grand larceny. Nonetheless, the annexation created the first group of Mexicans who became "Mexican-Americans," at least in theory.

Though the movement of Anglo-Americans into California and New Mexico was marked by less conflict than in Texas, Yankee settlers eventually became numerically dominant in these territories as well. At the federal level, pressure to conquer the Southwest and thus to extend the nation's boundaries to the Pacific Ocean mounted, driven primarily by economic forces and rationalized under the doctrine of Manifest Destiny. The U.S. government offered to buy the land from Mexico, but Mexico refused the offer. By 1842, the U.S. had let it be known that what it could not buy, it would take by force. In a private meeting with his cabinet, President James Polk declared his intention "to acquire for the U.S., California, New Mexico, and perhaps some other of the northern provinces of Mexico" (Chicano Communications Center, 1976).

In 1846, one year after the annexation of Texas, the U.S.-Mexican War broke out. The U.S. captured Mexico City in early 1848, and peace negotiations resulted in the Treaty of Guadalupe Hidalgo. This pact recognized the United State's possession of northern Mexico, which constituted almost half of Mexico's domain, not including Texas. Other provisions of the treaty dealt directly with the rights of Mexicans living in the annexed territory: They had the right either to remain in U.S. territory or to relocate to Mexico. In addition to the constitutional rights guaranteed

to other U.S. citizens, the new Mexican-Americans were explicitly guaranteed their cultural, religious, and property rights.

The U.S. Senate insisted on radical changes in the treaty, however, and over the protests of the Mexican government, the U.S. forced its ratification, signed as the Protocol of Querétaro on May 26, 1846. Despite U.S. claims that these changes did not annul the civil, political, and religious guarantees provided to the Mexican-Americans by the original treaty, the vague language of the Protocol left loopholes whereby the provisions of the Treaty of Guadalupe Hidalgo was violated time and time again during the next fifty years.

The United States eventually realized that its enlarged boundaries still failed to include one vital piece of real estate, the Mesilla Valley in southern New Mexico and Arizona, which was needed for the southern route of the transcontinental railway system. Since Mexico was close to financial bankruptcy, it sold the 30,000-square-mile strip of land to the U.S. for $10 million, a transaction ratified by the Gadsden Treaty of 1853. Thus, another part of Mexico and another group of Mexicans (some of whom had moved from previously annexed territories) were annexed by the United States.

As more Anglo-American settlers moved into the Southwest, from Texas to California, they were forced to adapt to an environment that was very different from what they had known in the eastern and southern regions of the U.S. Thus was born the "All-American cowboy." Spanish-derived words like "ranch," "lasso," "lariat," "rodeo," "stampede," "canyon," "pinto," "dolly welter" (from darle vuelta, to twist rope around saddle horn), and "calaboose" entered the English language. In addition, the Anglo settlers had to learn to construct their houses differently, sometimes using new materials such as adobe; to grow unfamiliar kinds of agricultural crops;

and to irrigate them differently in order to transform barren desert to cultivated acreage.

Hostile feelings toward the encroaching Yankees was strong, and resistance to Anglo political and economic domination was widespread, though the numbers involved were slight. Most early Mexican-American resistance leaders--Joaquin Murieta and Tiburcio Vasquez in California, Juan N. Cortina and Gregorio Cortez in Texas, and Elfego Baca in New Mexico--were isolated individuals with small followings, social "lawbreakers" who had personal, if not nationalistic, vendettas against the U.S. government and the Anglo settlers. The United States has never accorded them the status of romantic folk heroes, as has been the case with criminals such as Jesse James and Billy the Kid. These resistance movements were quickly and ruthlessly crushed by the law-and-order forces of the Old West, the most notorious being the Texas Rangers, who to this day are despised by most Chicanos in Texas.

The Twentieth-Century Experience

Mexican immigration did not cease after the U.S. took over the Southwest. The 1890 Census counted over 75,000 Mexican-born immigrants in the United States, not including those born in the annexed territories prior to their conquest. It has been estimated that in 1900 the total U.S.-born and foreign-born Mexican population in this country numbered between 381,000 and 526,000.

In 1910, the Mexican people initiated the first social revolution of this century against the government of President Porfirio Diaz. Over a million lives were lost, and hundreds of thousands of exiles came north seeking asylum and a better life.

During the 1920s, when the U.S. economy was flourishing, emigration from Mexico reached an all-time high; nearly 500,000 Mexicans on permanent visas, and probably an equal number without documents, entered the country. The strict immigration quotas imposed between 1921 and 1924 were directed chiefly against Europeans and did not apply to countries in the Americas. Thus, Mexicans constituted a major proportion of all immigrants to the U.S. during this period.

Anglo-Americans had mixed reactions to this influx. Those in the East were largely unaware of or indifferent to a phenomenon whose center was the Southwest. Some religious groups and government agencies attempted to help the new immigrants. Industry, agri-business, and the railroads unequivocally supported the unrestricted immigration of cheap labor. But as the total Mexican population in the Southwest increased, so did the hostility of local Anglo residents. Civic groups, chambers of commerce, welfare agencies, and labor unions began to voice opposition to the open-door policy and to speak out on the "Mexican problem." In 1924 the U.S. Bureau of Immigration was established, along with the Border Patrol, better known as "La Migra" among Chicanos and Mexicanos.

During the Great Depression, Mexican immigration to this country slowed. Mexican workers, welcomed in more prosperous times, were now seen as "surplus labor" and as a drain on public relief funds. Consequently, the U.S. government instituted a Repatriation Program aimed at returning Mexican aliens to their country of origin. Many racist elements interpreted this supposedly voluntary program as a license to deport Mexican people at will. Some 500,000 Mexicans, many of them born in the United States, became victims. To keep the family intact, husbands, wives, and children returned to Mexico, which welcomed back the many able workers it had earlier lost but had difficulty reintegrating them into its workforce.

Just a few years after these massive deportations, the situation turned around again. During World War II, business boomed, and workers were in short supply. In response to the demand for labor, the binational Bracero Program was initiated in 1943 to bring Mexican farmworkers into the country to work in agri-business. So successful was the program in maximizing the profits of the growers that it was continued after the war. An estimated 200,000 braceros worked in 21 states; about half of them were used in California. Similar shortages of agricultural workers created by the Korean War led Congress to extend the program in 1951. The peak was reached in 1959, when nearly 450,000 braceros entered the U.S. Not until 1964 was the Bracero Program terminated.

In addition to the documented workers admitted under formal programs, undocumented workers (known as mojados or "wetbacks") continued to enter the country from Mexico. The flagrant violations of the civil and human rights of these workers are well known: In return for their labor, they were poorly paid, housed in miserable and unsanitary conditions, and denied adequate health care. This exploitation continues today; but at the same time undocumented workers are erroneously blamed as a cause of inflation, recession, and waste of public funds.

More than half a million Mexican-Americans served in World War II, mostly as foot soldiers, fighting in the Pacific, North Africa, Sicily, France, and Germany. More than 17 were awarded the Congressional Medal of Honor. Through the Korean and Vietnam Wars, Chicanos have won proportionally more Congressional Medals of Honor than any other ethnic group in the U.S.

While Mexican-Americans were fighting and dying overseas during World War II, those back home were suffering the indignities of racial violence,

especially in Los Angeles, where the notorious Zoot Suit Riots took place in June of 1943. Hundreds of Anglo sailors, Marines, and civilians brutally attacked young Chicanos, especially those dressed in zoot-suit Pachuco clothes, though Filipinos and Blacks were also the targets of this racist rampage. The press was partly responsible for arousing public feeling against all foreign-looking Americans. The bias against Mexicans has since been acknowledged and documented by the press itself.

Institutionalized racism against Chicanos and Mexicanos has been and continues to be widespread. For instance, numerous studies indicate that the law enforcement and judicial systems deal more severely with these groups than with Anglos. It has often been noted that there are more Chicanos in penal institutions than in higher education institutions. Not only do they get convicted and incarcerated more frequently, but also they tend to get harsher sentences.

Another example of the unfair treatment accorded to Mexicans and Mexican-Americans can be found in the federal government's periodic efforts to round up and deport undocumented workers. One such effort extended from 1950 to 1955, culminating in Operation Wetback; the government claims to have expelled some 3.8 million Mexicans during this period (though many of them may have been expelled more than once). Raids on factories, restaurants, bars, and private homes became commonplace; among those affected were elderly Mexicans who had entered the United States decades earlier, when border crossings were more informal. This harrassment continues to the present time: Mexican-Americans living near the border are stopped on the street and asked to prove that they are legally in the U.S. They are searched at highway checkpoints set up by the Immigration Service. Many Mexican aliens who are now eligible for naturalization refuse to apply for U.S.

citizenship because they fear reprisal and possible deportation.

In response to this institutionalized racism, the Mexican-American community has formed civic organizations, established newspapers, and initiated legal action. One of the first activist groups was the League of United Latin American Citizens (LULAC), founded in south Texas in 1929 and expanded into a national organization during the post-World-War-II period. LULAC has been heavily involved in antidiscrimination activity, especially in the area of education. Another national organization, the G.I. Forum, was born in Corpus Christi in 1948 when local officials refused to permit the burial of a Mexican-American war hero in the local "for-whites-only" cemetery. Established in 1959, the Mexican American Political Association (MAPA) is intended to promote "the social, economic, cultural, and civic betterment of Mexican Americans and all other Spanish-speaking Americans through political action"; the association has chapters in voting districts throughout the state of California.

It was during the 1960s--a decade of social upheaval for the entire country and particularly for various ethnic groups--that the term Chicano, once regarded as a pejorative, was resurrected and used to forge a new political and cultural identity. At the same time, charismatic leaders drew national attention to Chicano issues. In New Mexico, Reies Lopez Tijerina sought to restore lost Spanish and Mexican land grants through the widely publicized and often flamboyant activities of the Alianza de Pueblos Libres (Alliance of Free People). In Colorado, Rudolfo "Corky" Gonzales, former prize fighter and disaffected Democratic party official, organized the Crusade for Justice and established several alternative community organizations in the Denver area. In California, Cesar Chavez first founded and then became the driving force behind the United Farm Workers Union. In

Texas, Jose Angel Gutierrez and others, working primarily through a third party known as La Raza Unida, waged successful political campaigns to unseat the Anglo-dominated governments of several predominantly Chicano cities and counties in south Texas.

Equal educational opportunity has long been a primary goal of Chicano activists. Student protests and demonstrations at colleges throughout the Southwest resulted in increased recruitment of Chicano students and faculty starting in the late 1960s, though the figures have since stabilized (see Chapter 4). Much of the battle has been fought through the courts. Helping to prepare the way for the Supreme Court's historic Brown decision in 1954 was the Mendez v. Westminster School District decision in 1945, which declared illegal the de-jure segregation of Chicano and Mexican school children on the basis of race and proposed bilingual education as a partial remedy to past segregation. Despite this ruling, most Chicanos in the Southwest continue to attend segregated schools. In the 1970s, the Cisneros v. Corpus Christi Independent School District decision finally established that Chicanos were, in fact, an identifiable ethnic minority and thus were covered by the Brown decision. Prior to that time, Chicanos had been classified as Caucasians; thus, orders to desegregate were often evaded by assigning Blacks and Chicanos to the same schools, separate from Anglos.

The Chicano Movement has involved both peaceful demonstrations and violent riots. Of special significance is the Chicano Moratorium March, which took place in Los Angeles on August 29, 1970. Its purpose was to protest the Vietnam War, which was claiming a disproportionately high number of Chicano casualties, and to demonstrate cultural solidarity. Ten thousand people marched peacefully, some in family groups. On the pretext that someone had taken shots at them, the police attacked the marchers, and the resulting

riot left three people dead: Angel Diaz; Lyn Ward, a 15-year-old Chicano; and Ruben Salazar, well-known columnist for the Los Angeles Times and News Director of Chicano radio station KMEX.

Another noteworthy event was the 1972 strike against the Farah Company (largest U.S. manufacturer of men's and boys' pants), in which 4,000 women, mostly Chicanos, participated. After a nationwide boycott of Farah products, the long strike ended in victory. Nonetheless, Hispanic women continue to be exploited in the garment industry in the Los Angeles area (as well as in New York), working long hours for low pay in unsanitary sweatshops.

During the 1970s, as more Chicano teachers, lawyers, physicians, and businessmen graduated from the universities, a number of Chicano professional associations emerged, supported in part by private foundations. Among these groups were the Mexican American Legal Defense and Education Fund (MALDEF), the National Council of La Raza, and several educational organizations. Chicano professionals by the hundreds descended on Washington to set up national offices and to take jobs in many branches of the federal bureaucracy.

The Chicano movement has reached all segments of the Mexican-American population, from farmworkers and military servicemen to students and professionals. The greater visibility of the nation's Chicano population has brought some benefits but at the same time has created a backlash of Anglo resentment.

The arts play a significant role in the Chicano movement. For instance, El Teatro Campesino, founded by Luis Valdez, has received wide recognition and praise, stimulating the establishment of other teatros around the Southwest. Chicano writers have begun to take their place in the American literary scene. Chicano art, once ridiculed, has come to be respected. The colorful mural movement that has engulfed the nation and the world was sparked by Chicano artists who painted the walls of buildings in the barrio,

just as Rivera, Siqueiros, and Orozco had done in the old country.

Chicanos have created their own culture, a biculture that borrows from and contributes to both the Anglo and the Mexican cultures. That culture has been a unifying and strengthening force for Mexican-Americans, a deterrent to assimilation, and a source of pride and identity.

CHAPTER 3

CURRENT STATUS OF THE POPULATION

This chapter profiles the Chicano population in terms of demographic characteristics, educational attainment, and employment status. Although sometimes incorrectly used to refer to all Americans with a Spanish-language or Hispanic-cultural background, the term Chicano as used in this report refers only to those persons of Mexican descent living in the United States (i.e., Mexican-Americans).

Doing research on Chicanos is rendered difficult by problems of definition and data collection. In The Condition of Education for Hispanic Americans, a 1980 publication of the National Center for Education Statistics (NCES), Brown, Rosen, Hill, and Olivas point out that the operational definitions used in identifying Hispanic Americans have varied over time and from one data-collection agency to another:

> For example, the Census Bureau has variously counted Hispanic Americans as: "Spanish-speaking immigrants" (1850); persons speaking Spanish as a "mother tongue" (1910); persons who identified themselves as being of the "Mexican race" ("all persons born in Mexico or having parents born in Mexico who are not definitely White, Negro, Indian, Chinese or Japanese") (1930); persons with "Spanish surnames" in the southwestern states (1950); persons with a combination of Hispanic birth or parentage, Spanish mother tongue, and Spanish surname (1960); and persons of "Spanish origin or descent" (1970). These varying categories make it impossible to calculate long term Hispanic population trends or to separate data into the various Hispanic subgroups: Mexican American, Puerto Rican, Cuban, or other Spanish origins. (pp. 1-2)

This failure to distinguish among the various Hispanic subgroups makes it hard to assess just how well Chicanos are faring in American society. The inclusion of Cubans (whose educational attainment is comparable to that of Whites) in the Hispanic category tends to give a misleadingly rosy picture of progress made in recent decades.

Another problem with statistics on Chicanos is that the techniques used by the U.S. Bureau of the Census in collecting data have not been very reliable. Following a comprehensive study of the 1970 Census, the U.S. Commission on Civil Rights (1974) made the following criticisms:

- o No effort was made to include persons of Hispanic background on the advisory committees formed to prepare for the Census;
- o Mailing lists were drawn up from commercial lists of such persons as property-tax-payers, thus excluding many citizens of Hispanic origin;
- o Little effort was made to hire bilingual census-takers;
- o Not enough bilingual community education specialists were hired;
- o Census officials failed to send out sample bilingual or Spanish-language questionnaires to people in every area with large concentrations of Hispanic Americans.

Similarly, Olivas (1978) maintains that the reluctance of census-takers to poll minority households, and their inability to speak Spanish, resulted in sampling errors and undercounts of Chicanos and other Hispanics. According to one estimate, in California alone the 1970 Census undercounted Chicanos by more than half a million (President's Task Force, 1975).

The U.S. Census Bureau is not the only government agency that undercounts or simply ignores the Chicano presence in the United States. Speaking at the California Governor's Chicana Conference in June 1980, Antonia Lopez commented bitterly:

> We don't exist . . . to the department of aging; we have no old people. There are no statistics in the department of corrections, they don't know how many of us are incarcerated or for what.
>
> Education--they don't know anything except we're dropping out at a 50 percent rate.

> Mental health--they don't know. We don't have any mentally ill.
>
> A lot of government itself simply has not documented us.
>
> (Vils, 1980, part 5, p. 1)

In short, because data-collection agencies aggregate data on Hispanic groups, use techniques that result in undercounts, or simply fail to recognize the existence of Chicanos as a subgroup, the statistics cited here must be regarded as conservative estimates.

Demographic Characteristics

Chicanos as a group are young. In 1974, their median age was 18.9 years, compared with 19.8 years for Puerto Ricans, 35.7 years for Cubans, 22.8 years for Blacks, and 29.3 years for non-Hispanic Whites (Arce, 1976). By 1978, the median age for Chicanos had climbed slightly, to 21.3 years, compared with a median age of 30.6 years for non-Hispanic Whites (de los Santos, 1980, Table 3).

According to 1974 data from the 1974 Current Population Surveys of the Bureau of the Census:

> Chicano youth and children are more likely than any other group to live in larger families with both mother and father present. The median number of persons in Chicano families is 4.39, versus 3.44 for the total population. Over 49 percent of Chicano families have 5 or more persons, compared with 32 percent for blacks, 21 percent for whites, and 29 percent for Puerto Ricans. Eighty-five percent of all Chicano families have both husband and wife present compared to 62 percent for blacks and 66 percent for Puerto Ricans. The corresponding figure for the total population is 86 percent.
>
> (Arce, 1978, p. 79)

By 1978, the average family size among Chicanos had dropped slightly (to 4.1 members) but was still larger than that of other groups. Moreover, 19 percent of Chicano families--compared with 12 percent of Puerto Rican families and only 7.5 percent of non-Hispanic families--were composed of six or more persons (Brown et al., 1980, Table 1.07, p. 18).

According to data collected by the Census Bureau, Chicanos numbered 7.2 million in 1978 and accounted for 59 percent of the total Hispanic population of the United States (Brown et al., 1980, Table 1.01, p. 6). The majority live in the Southwest. In 1976, over three-quarters of the total Chicano population lived in California (2.7 million) and in Texas (2.5 million). These two states and four others--Arizona (319,000), Illinois (222,000), New Mexico (214,000), and Colorado (211,000)--accounted for 91 percent of all Chicanos. The concentration of Chicanos is heaviest in Texas (where they constitute 20 percent of the total population) and New Mexico (where they constituted 18 percent of the total population).[1]

Chicanos are more likely than other Hispanic subgroups to live in non-metropolitan areas: 19 percent of all Chicano families in 1978, compared with only 4.8 percent of Puerto Rican families, 2.7 percent of Cuban families, and 14 percent of "other Hispanic" families (Brown et al., 1980, Table 1.05, p. 14). Like all groups of Hispanics, however, they are much more likely than non-Hispanics to live in metropolitan areas, especially in the central city. In 1978, 81 percent of Chicano families (compared with 65 percent of non-Hispanic families) lived in metropolitan areas; of these, 57 percent (compared with 39 percent of non-Hispanic city-dwelling families) lived in the central city.

In 1976, 85 percent of Chicanos reported that they came from Spanish-language backgrounds; the comparable figures were 92 percent for Puerto Ricans and 98 percent for Cubans (Brown et al., 1980, Table 1.11, p. 26). Of this group from Spanish-language backgrounds, 95 percent of Chicanos

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1. These figures were derived from Brown et al., 1980, Table 1.04, p. 12. The absolute number of Hispanics in each state was multiplied by the proportion of Hispanics in that state identified as Chicano, and the result was then rounded off to the nearest thousand.

(compared with 95 percent of Puerto Ricans and 98 percent of Cubans) lived in households where Spanish was spoken. Finally, 30 percent of all Chicanos (compared with 38 percent of all Puerto Ricans and 57 percent of all Cubans) reported that Spanish was their usual language.

Educational Attainment

As Table 1 indicates, the education attainment of Chicanos is significantly lower than that of the general population. In 1976, almost one-quarter (23 percent) of all Chicanos age 25 or older (compared with only 3.6 percent of the total U.S. population) had less than five years of schooling; only one-third (34.3 percent) of this age group (compared with about two-thirds of the total population) were high school graduates; and only 4.3 percent (compared with 16 percent of the total population) were college graduates.

The educational attainment of younger Chicanos tends to be higher than that of older Chicanos. Looking just at Chicanos in their late twenties, we find that only 7.6 percent reported having less than five years of schooling. Of Chicanos in the 20-24 age group, in 1976, 64 percent had graduated from high school; the comparable figure for the total 20-24 age group was 87 percent (Bureau of the Census, Population Characteristics Series P-20, 1978).

Additional data provided by Carter and Segura (1979) on the educational attainment of Chicanos in the five southwestern states where they are primarily concentrated shows that, through high school graduation and college entry, Texas has the worst record: Only 86 percent of the Chicanos (compared with 100 percent of the Anglos) completed eighth grade; only 53 percent (compared with 85 percent of the Anglos) graduated from high school; and only 16 percent (compared with 53 percent of the Anglos) entered college (Table 2). Chicanos fared best in Arizona in that 81 percent (compared with

3-8

Table 1

Educational Attainment of Persons 25 Years of Age or Older, 1978
(in percentages)

	Less Than Five Years	High School Graduate	College Graduate
Total population	3.6	65.9	15.7
Chicanos	23.1	34.3	4.3

Source: Bureau of the Census, Persons of Spanish Origin in the United States: March 1978. Current Population Reports, Series P-20 No. 339, 1979

Table 2

Educational Attainment of Chicanos,
in the Southwest, 1971
(in percentages)

State	Proportion of Chicanos in the Total State Population, 1976[a]	Educational Attainment 8th Grade Anglos	8th Grade Chicanos	12th Grade Anglos	12th Grade Chicanos	College Entry Anglos	College Entry Chicanos
Arizona	14	99.2	96.5	88.9	81.3	53.3	33.0
California	13	100.0	93.8	85.7	63.8	46.9	28.2
Colorado	8	100.0	99.0	94.8	67.4	50.6	16.6
New Mexico	18	96.9	93.4	79.4	71.1	52.9	22.2
Texas	20	100.0	86.1	85.1	52.7	53.0	16.2

Source: Carter A. Segura, 1979, p. 48

[a]Brown et al., 1980, Table 1-04, p. 12

89 percent of the Anglos) graduated from high school, and one-third (compared with 53 percent of the Anglos) entered college. Additional data from Carter and Segura (1979, Table 10, p. 55) show that college completion rates were highest in New Mexico (7 percent of Chicanos, 24 percent of Anglos) and lowest in California (3.3 percent of Chicanos, 11.1 percent of Anglos).

The educational attainment of Chicanos, and their progress through the educational pipeline, are dealt with more thoroughly in the next chapter.

Employment

Unemployment is more prevalent among Chicanos than among Anglos. Thus, in 1976, 11 percent of Chicano men 15 years of age or older were out of work and were actively seeking work, compared with 5.9 percent of majority men. The comparable figures for women were 15 percent of Chicanas and 8.7 percent of majority women (U.S. Commission on Civil Rights, 1978, Table 3.1, p. 30). Discrepancies between Chicanos and Anglos are even more marked when one looks at teenage unemployment. Among 16-19-year-olds, close to one-quarter of Chicanos, but only 5.9 percent of majority men, were out of work and actively seeking work in 1976; 27 percent of teenage Chicanas, compared with 19 percent of majority females in this age group, were unemployed (U.S. Commission on Civil Rights, 1978, Table 3.2, p. 32).

Further, as Table 3 indicates, Chicanos tend to be concentrated in low-level occupations. Relative to the total population, they are overrepresented in the following occupational categories: farm laborers and supervisors; laborers, excluding farm; operatives, including transport; craft and kindred workers; service workers. Chicanos are underrepresented among professional, technical, and kindred workers; managers and administrators; sales workers; clerical workers; and farmers and farm managers.

Table 3

Occupational Distribution of Employed Persons in the Total Population and of Chicanos[a] (in percentages)

Major Occupational Category	Total Population	Mexican American
Professional, technical and kindred workers	15.6	6.2
Managers and administrators, except farm	11.1	5.1
Sales workers	6.4	3.5
Clerical and kindred workers	18.0	13.4
Craft and kindred workers	12.7	15.0
Operatives, including transport	15.1	26.6
Laborers, excluding farm	4.7	9.0
Farmers and farm managers	1.4	0.2
Farm laborers and supervisors	1.2	4.8
Service workers	13.7	16.3
Total employed Number (000s) Percent	91,964 100.0	2,556 100.0

Source: Brown et al., 1980, Table 4-14, p. 248

[a]Age 16 and older

Not surprisingly, Chicanos tend to have low incomes. Indeed, in 1977 almost one-quarter (24 percent), compared with only 9 percent of the majority population, were below the poverty level (U.S. Commission on Civil Rights, 1978, Table 4.6, p. 62). The median income of Chicanos age 14 and older was $5,536 in 1977, compared with a median income of $6,484 for non-Hispanics (Brown et al, 1980, Table 1.12, p. 28). Moreover, these salary differentials persist, even after level of educational attainment is taken into account: In 1975, the median income of college-educated Chicano men was $10,786 (compared with $15,165 for college-educated men); for college-educated women, the comparable figures were $6,967 for Chicanas and $8,165 for majority women with a college education (U.S. Commission on Civil Rights, 1978, Table 2.7, p. 24).

Summary

Because data on Chicanos are often aggregated with those on other Hispanic subgroups and because Chicanos are typically undercounted in Census surveys or simply ignored by government agencies, reliable statistics are hard to come by. It is clear, however, that Chicanos--who account for about three-fifths of the Hispanic population in the U.S.--are a young group, that they tend to live in large and intact families, and that they are concentrated in the Southwest (with the largest numbers residing in California and Texas). They are more likely than are non-Hispanic Whites, but less likely than other Hispanic subgroups, to live in metropolitan areas. Somewhat smaller proportions of Chicanos than of Puerto Ricans or Cubans come from Spanish-language backgrounds or speak Spanish as their usual language.

It is also clear that Chicanos tend to be disadvantaged educationally, occupationally, and economically. They are much less likely than Anglos to complete high school and enter college, though the situation has improved

somewhat in recent years, and younger Chicanos reach higher levels of educational attainment. The unemployment rates of adult Chicanos are almost twice as high as those of non-Hispanic Whites, and those who are employed tend to work in low-level jobs (e.g., farm worker, factory operative, service worker), and to make low incomes. In 1977, almost one-quarter were estimated to be below the poverty level, and given the limitations of the data, the actual figure is probably higher.

CHAPTER 4

REPRESENTATION OF CHICANOS IN HIGHER EDUCATION

This chapter examines the progress of Chicanos through the educational system, focusing on their representation, past and current, in higher education. It also profiles Chicano college students, looking at trends in their characteristics over the decade of the 1970s.

The Educational Pipeline for Chicanos

Since high school graduation rates obviously determine the pool available for college, we will look first at the participation of Chicanos in secondary schooling, then at their college attendance (with particular attention to their distribution among institutional types), college completion, and participation in graduate or professional school.

High School Attendance and Graduation

As was already indicated in Chapter 3, Chicanos have substantially lower high school graduation rates than Anglos; indeed, in Texas, close to 15 percent of Chicanos leave the educational system before completing eighth grade.

The high school attendance and graduation rates of Chicanos have improved somewhat over time but still lag behind those of most other ethnic groups in the U.S. In 1960, over one-quarter (26 percent) of 15-17-year-old Chicano males, compared with only 18 percent of majority males in this age group, were not enrolled in school; only American Indian males had a higher rate of high school nonattendance (29 percent). By 1970, the high school attendance rates of Chicano males had improved somewhat, both in absolute terms and relative to those of other groups: Only 13 percent were not enrolled in school (compared with 9 percent of majority males).

By 1976, the rates of nonattendance had dropped still further: to 11 percent for Chicano males and 9 percent for majority males (U.S. Commission on Civil Rights, 1978, Table 2.2, p. 10).

The high school participation rates of Chicanas are even lower. In 1960, 31 percent of those from 15 to 17 years of age were not enrolled in school, compared with 12 percent of majority females; in 1970, high school nonattendance had dropped to 17 percent for Chicanas and 6 percent for majority females (U.S. Commission on Civil Rights, 1978, Table 2.2, p. 10).

According to five-year averages (1974-78) derived from data collected by the Current Population Surveys (CPS) of the U.S. Bureau of the Census, the high school attrition rate of Chicanos between the ages of 20 and 25 was about 50 percent, compared with a rate of 18 percent for Whites, 29 percent for Blacks, and 52 percent for Puerto Ricans (see Astin, 1980).

Looking at high school completion rates among persons from 20 to 24 years of age, we find that in 1950 only about one-third of the Chicanos (34 percent of the men, 35 percent of the women) had graduated from high school, compared with about 70 percent of the majority men and women in this age group. By 1976, the rates had improved, but a gap had developed between the sexes: 64 percent of the Chicano men, but only 59 percent of the Chicanas, in the 20-24 age group had completed high school. The comparable figure for majority men and women was about 87 percent, with no great sex differential (U.S. Commission on Civil Rights, 1978, Table 2.3, p. 12).

The Current Population Surveys yield more recent high school completion data for Hispanics (but not for Chicanos separately). In 1979, 52 percent of Hispanics between the ages of 25 and 29, and 62 percent of 20-21-year-olds, had completed high school (see Astin, 1981). Comparable figures for Whites were 87 percent of the 25-29-year-olds and 86 percent of the 20-21-

year-olds. In short, more Chicanos are now graduating from high school than was true in earlier years, but the proportions are still much lower than those for Whites.

College Attendance

Until the 1970s, Chicanos--along with Blacks, Puerto Ricans, and American Indians--were the invisible men and women of U.S. higher education. Not only were they almost entirely absent from America's mainstream colleges and universities, but also they were virtually ignored in the literature on these institutions. For instance, at the University of Texas, Chicano enrollments remained below 2 percent of total enrollments up to 1945 (Fogartie, 1948); only 271 Chicanos received degrees between 1928 and 1945, accounting for about 1.1 percent of all the degrees awarded by the University in those years. As late as 1968, Chicanos constituted only 3 percent of the enrollment at the University of Texas.

The few Chicanos who did attend college prior to World War II were often treated condescendingly (Weinberg, 1977). In the early 1940s, for example, the University of New Mexico instituted a dual system of grading on the assumption that Chicanos could not perform as well as Anglos; moreover, Chicanos were completely excluded from fraternities and sororities (Zeleny, 1944).

Following World War II, the GI Bill facilitated the college entry of Chicanos who had served in the military. By 1953, "California enrolled nearly 36,000 college freshmen of Mexican-American origin, several thousand more than in Texas" (Weinberg, 1977, p. 341). Despite this overall increase, San Fernando Valley State College (California) enrolled only seven Chicano students in 1966, and in 1968 Chicanos accounted for only 2.3 percent of UCLA's total undergraduate enrollment (Guerra et al., 1970). Not until the early 1970s did Chicanos begin to make any noticeable enrollment

gains in mainstream colleges and universities.

Reliable statistics on the college enrollments of Chicanos are sparse; the usefulness of the data collected by most federal agencies is weakened by the fact that figures on Chicanos are seldom disaggregated from figures on other subgroups of Hispanic Americans. Table 4, based on data from Census surveys, indicates that the college attendance rates of Hispanics (and Blacks) who are 20-21-years-old have increased slightly in recent years, whereas rates for Whites have remained relatively stable. Data from the National Longitudinal Survey show that 37 percent of the Hispanics, compared with 46 percent of the Whites, who graduated from high school in 1972 enrolled in college in the fall of the same year.

Institutional Distribution. The enrollment of Chicanos in two-year colleges (the majority of which are public institutions) is disproportionately high. As Table 5 shows, over half (54 percent) of Hispanics--compared with one-third of Whites and 42 percent of Blacks--enrolled in two-year colleges in the fall of 1978. Relative to non-Hispanic white enrollments, Hispanics were slightly underrepresented at private universities and four-year colleges and drastically underrepresented at public universities.

Moreover, in four of the five southwestern states with large Chicano populations, substantially more Hispanics than non-Hispanic Whites who were full-time freshmen and sophomores in the fall of 1978 were attending two-year colleges: in Arizona, 75 percent of the Hispanics (versus 44 percent of the non-Hispanic Whites); in California, 72 percent (versus 61 percent); in Colorado, 38 percent (versus 22 percent); and in Texas, 55 percent (versus 34 percent). Only New Mexico is an exception to this pattern: 14 percent of Hispanic freshmen and sophomores, and 15 percent of non-Hispanic white freshmen and sophomores, were enrolled in two-year colleges.

Table 4

College Attendance Rates of Persons Age 21-22
from Different Racial/Ethnic Groups[a]
(in percentages)

Group	Year of Survey 1973	1975	1977	1979
White	41	39	41	41
Black	25	26	32	29
Hispanic	NA	21	25	23

Source: Astin, 1981

Table 5

College Enrollment Patterns of Different Racial/Ethnic Groups, Fall 1978 (in percentages)

Type of Institution	Groups White	Black	Hispanic
Public university	19.7	9.7	8.6
Private university	6.5	4.3	4.1
Public four-year college	24.8	30.6	25.0
Private four-year college	14.6	13.5	7.9
Two-year college	34.5	42.0	54.4

Source: National Center for Education Statistics, U.S. Department of Health Education and Welfare, Fall Enrollment in Higher Education, 1978 (Washington: NCES, 1980).

Data from the 1979 freshman survey of the Cooperative Institutional Research Program (CIRP) give a more detailed picture of the enrollment patterns of Chicanos, who constituted 1.2 percent of total first-time, full-time freshmen in 1979: 7 percent of those entered institutions located in the West, .8 percent in the Midwest, .3 percent in the East, and .2 percent in the South (Astin, King, & Richardson, 1979). Table 6 shows the proportions of male and female Chicanos among all entering freshman men and women at different types of institutions in 1979. Relative to their proportion among all entering freshmen, they were underrepresented at public universities, at public, private-nonsectarian, and Protestant four-year colleges, and at private two-year colleges. They were overrepresented at Catholic four-year colleges (constituting close to 5 percent of the freshman classes at these institutions) as well as at public two-year colleges. In summary, Chicanos seem to be concentrated in Catholic four-year colleges (which tend to be somewhat unselective) and in community colleges (which tend to be low- or no-cost, "open-door," commuter institutions with relatively few resources).

Institutions with Large Chicano Enrollments. Chicanos are in the majority at thirteen institutions across the country: nine in Texas, two in California, one in New Mexico, and one in Oregon. Of these thirteen institutions, six are community colleges, four are public four-year colleges, two are private four-year colleges (Our Lady of the Lake University of San Antonio, a Catholic institution; Colegio Cesar Chavez in Oregon), and one is a private two-year college (DQ University, in Davis, California). Some, like Pan American University (Texas) and Texas A&I University, are large and comprehensive institutions, others, like Colegio Cesar Chavez and DQ University, have very small enrollments and limited resources. In 1978, the heaviest concentration of Chicanos was found at Laredo Junior College (where Hispanics accounted for

Table 6

Chicanos as a Proportion of All First-Time, Full-Time Freshmen, by Institutional Type, 1979

Type of Institution	Men	Women
University:		
Public	0.4	0.3
Private	1.3	1.2
Four-year college:		
Public	1.0	1.0
Private-nonsectarian	0.7	0.5
Protestant	0.5	0.4
Catholic	4.5	4.7
Two-year college:		
Public	1.5	1.8
Private	0.9	0.4
Total	1.1	1.2

Source: Astin, King, G. Richardson, 1979.

87 percent of the enrollment) and Texas State Technical, Rio Grande (where they accounted for 85 percent). The largest number of Chicanos (over 9,000 in 1978) attended East Los Angeles College (Brown et al., 1980, Table 3.15, p. 152). Other institutions with large (but not majority) Chicano enrollments include the University of Texas at El Paso (where Hispanics constituted 38 percent of the student body in 1978), the University of New Mexico (22 percent), and California State University at Los Angeles (20 percent) (Brown et al., 1980, Table 3.16, p. 154).

The institutions enrolling large numbers of Chicanos differ in several ways from the nation's more-than-100 historically black colleges and universities, which are located chiefly in the South but are found in Ohio and Pennsylvania as well. Many of the historically black colleges were established over a century ago, some are very large, and several have prestigious law and medical schools; one--Howard University, in the District of Columbia--is a research university of national repute. In contrast, the institutions enrolling large numbers of Chicanos, whether independent institutions or the branch campuses of larger institutions, tend to be small undergraduate institutions that are less than 20 years old. While many historically black institutions were founded with the express mission of serving Blacks and have for many years been controlled by Blacks, most institutions with large Chicano enrollments are staffed and administered chiefly by Anglos (Arce, 1978).

College Completion

Chicanos have lower college completion rates than either non-Hispanic Whites or Blacks. In a study conducted for the National Institute of Mental Health, Munoz and Garcia-Bahne (1978) reported that

> approximately 50 percent of all students who enter the university system complete their studies and receive four-year degrees. Of all the Anglo students who matriculate, 48 percent graduate. But Mexican Americans who complete a four-year undergraduate program constitute less than a quarter (24 percent) of those who began. (p. 2)

An earlier study conducted by the U.S. Civil Rights Commissionarrived at the same figure: "Only one in four Mexican American students who enter college actually graduates, compared with one in two Anglo Americans and one in 3.5 Black Americans (Pesqueira, 1973-74, p. 7).

According to the National Longitudinal Study (National Center for Education Statistics, 1979), of the high school graduates of 1972 who enrolled in college immediately and who were followed up four years later, in 1976, only 13 percent of the Hispanics had earned the baccalaureate, compared with 34 percent of the Whites and 24 percent of the Blacks. (These low rates reflect the fact that many students take more than four years to complete the baccalaureate.)

As was pointed out in Chapter 3, in 1978 among persons 25 years of age and older, only 4 percent of the Chicanos, compared with 16 percent of the general population, had completed college. Table 7 shows short-term trends in the proportions of college graduates among persons who are between 25 and 29 years old. The proportion of Hispanics has declined somewhat, from 9 percent in 1975 to 7 percent in 1979. Non-Hispanic Whites in the age group were over three times more likely than Hispanics, and twice as likely as Blacks, to have completed college.

In a study of Chicanos in California and Texas, de los Santos and her associates (1980) concluded that Chicanos in California have higher college attrition rates than students-in-general but that Chicanas are slightly less likely than are their male counterparts to drop out of college. In Texas, Hispanics "have slightly lower attrition rates overall than the

Table 7

College Completion Rates of Persons Age 25-29
from Different Racial/Ethnic Groups
(in percentages)

Group	Year of Survey			
	1973	1975	1977	1979
White	20	23	25	24
Black	8	11	13	12
Hispanic	NA	9	7	7

Source: Astin, 1981.

average for the total enrollment" (de los Santos et al., 1980, p. 76).

Various explanations have been offered for the high attrition rate of Chicanos. Some authorities (e.g., Astin, 1978) attribute it to their concentration in community colleges, which have low retention rates for students from all ethnic backgrounds. Leon (1975) contends that

> Chicanos withdraw from college because they lack knowledge concerning the mundane, everyday world of the university. This knowledge has not been previously made available to them in their high school environment, while other, non-minority, incoming students usually know "the ropes." (pp. 7-8)

Leon cites examples of a Chicano who endured a racist roommate because he did not know that he was allowed to change rooms; a Chicana who remained enrolled in an unsuitable course because she did not realize that the $3.00 fee for changing classes could be waived; and a Chicana who took an "F" in a course because she felt morally obligated to continue with it rather than dropping the class.

Participation in Advanced Education

The transition between college and graduate/professional school does not seem to be a major leakage point for Chicanos, at least not to the same extent as the transition between high school and college. According to data from the Office for Civil Rights, Chicanos constituted 1.7 percent of the baccalaureate-recipients in the 1975-76 academic year and 1.4 percent of the first-year graduate enrollments in the fall of 1976 (Table 8). In absolute terms, the ratio between the number of Chicanos enrolling for advanced study (9,052) and the number who had graduated from college the previous year (15,732) was .58, compared with a ratio of .60 for non-Hispanic Whites. In short, those Chicanos who make it through college seem about as likely as others to continue their education beyond the baccalaureate.

Table 8

Graduate/Professional School Enrollment and Attainment
of Persons from Different Racial/Ethnic Groups
(in percentages)

Group	Baccalaureate Recipients 1975-76	First-Year Graduate Enrollments Fall, 1976	Master's Degree Recipients	Professional Degree Recipients	Doctorate Recipients
White	87.6	84.3	84.7	90.1	81.2
Black	6.4	6.4	6.6	4.3	3.6
Chicanos[a]	1.7	1.4	1.2	1.4	.72

Source: Office for Civil Rights, Department of Health, Education and Welfare, Racial, Ethnic and Sex Enrollment Data from Institutions of Higher Education: Fall, 1976. (Washington: DHEW, April 1978).

[a]Represents figures for Hispanics weighted by .60.

A report prepared for the Joint Committee on the Master Plan for Higher Education in California found that in 1970, Chicanos constituted 5.4 percent of all undergraduates in the California State University and College system and 3 percent of all full-time graduate or professional school students in that system (Lopez & Enos, 1972, p. 70). The proportions of Chicanos among all graduate students in the nine-campus University of California system increased from 1.1 percent in 1968 to 2.8 percent in 1970. In 1970, only 1,400 or (2.8 percent) of the 49,788 graduate students in California public higher education were Chicanos (Lopez & Enos, 1972, p. 71).

Table 9 shows 1974 and 1978 figures on the representation of Chicanos among undergraduate and graduate enrollments in Texas and California and nationally. Proportionate increases, though slight, show that some gains have been made.

With respect to attainment of an advanced degree, Table 8 indicates that Chicanos were represented among master's- and professional-degree recipients roughly in proportion to their representation among first-year graduate enrollments. They accounted for only .7 percent of the doctorates awarded in 1976, however, and for only .4 percent of those awarded in 1980 (National Research Council, 1981).

Summary

Table 10 summarizes the progress of Chicanos through the educational pipeline: Of 100 Chicanos who start school, only 55 graduate from high school; about two-fifths of these Chicano high school graduates enter college, but only about one-third of these college entrants actually receive the baccalaureate. Slightly more than half of the Chicano baccalaureate-recipients enter advanced study, and about half of this group receive a

Table 9

Trends in Chicano Undergraduate and Graduate Enrollments
(in percentages)

	1974		1978	
	Undergraduate	Graduate	Undergraduate	Graduate
National	2.8	1.5	3.5	2.2
California	8.4	5.2	10.6	5.6
Texas[a]	12.8	6.6	13.5	7.1

Source: de los Santos et al., 1980.

[a]The Texas data are for 1976 and 1978.

Table 10

Educational Progres of Different Racial/Ethnic Groups
(in percentages)

	High School Graduate	College Entry	College Completion	Grad School Entry	Grad School Completion
Chicanos	55	22	7	4	2
Whites	83	38	23	14	9
Blacks	72	29	12	8	5

Source: Astin, 1981.

graduate degree. Thus, the high school dropout rate for Chicanos is 45 percent (compared with only 17 percent for Whites); the loss at the transition between high school and college is 60 percent (compared with 54 percent for Whites); the college attrition rate for Chicanos is 68 percent (compared with 40 percent for Whites); the loss between college completion and entry to advanced study for Chicanos is 43 percent (compared with 39 percent for Whites); and attrition from graduate or professional school is 50 percent for Chicanos (compared with 36 percent for Whites). Of 100 Chicanos who begin schooling, only two receive an advanced degree, whereas five of every hundred Blacks and nine of every hundred Whites reaches the highest level of the educational pipeline. Lopez and Enos (1972) encapsulate the situation:

> The relative absence of Chicanos as graduate students in our colleges and universities is the final stage in the vicious cycle of the educational underrepresentation of Chicanos which is self-reinforcing, and not apt to change without tremendous effort on the part of policymakers. The first stage of the cycle begins in high school, where the Chicano student often suffers the "disadvantages" of speaking mixed Spanish-English, or English with a Spanish accent. It is continued in high school through the influence of peers "going nowhere" who often attempt to keep their friends from going on to college. The pressures of the family, their financial needs, the frequent parental desire to keep Chicanos near the home, and the cost of higher education also are part of this cycle discouraging the Chicano student from going on to college. And, even if the desire to attend college develops, the Chicano student must often survive the depressing effort of ignorant counselors or college recruiters who just do not have the time to see them all individually.
>
> The cycle enters the next stage when those few Chicano students who do go on to college enter the white world of the average college campus. Computerized and bureaucratic admissions and enrollment are frustrating to any person, particularly one who doubts whether he belongs on a college campus at all. Finally, there is the shortage of financial aid and other student support services, all working to make the collegiate experience a negative one for Chicano students. (p. 73)

A Profile of Chicanos in Higher Education

The existing data, though sparse, document clearly the underrepresentation of Chicanos at all levels of the higher education system. The literature on the characteristics of those Chicanos who do enroll in higher education is equally sparse. Yet such information is vital to policymakers as they seek to increase the proportions of Chicanos, and other minorities, in the nation's colleges and universities. The following profile, pieced together from several sources, cannot pretend to fill the formidable information gap; it may, however, provide some insight into Chicano college students--their backgrounds, aspirations, attitudes, and values--and some understanding of how they have changed over the decade of the 1970s.

College-Bound Chicano High School Students

This section is based on data provided by the College Board on students who, in their junior and senior years of high school, had taken the Preliminary Scholastic Aptitude Test (PSAT) and the Scholastic Aptitude Test (SAT) in 1974 and 1975. As was pointed out earlier, the National Longitudinal Study found that 37 percent of the Chicanos who completed high school in 1972 entered college the following fall. Over half of all Chicano college students, however, enroll in two-year colleges, which do not require their entering freshmen to submit SAT scores. Thus, the Chicano sample discussed here (N=6,800) represents a very select group: Those Chicano high school students who planned not only to pursue higher education but also to enroll in four-year colleges or universities. Thus, we estimate that the sample constituted only about 15 percent of Chicano high school graduates.

Over one in four (27 percent) of these Chicano students (compared with 20 percent of the Whites, 17 percent of the Blacks, and 41 percent of the

Puerto Ricans for whom PSAT and SAT data were available) attended a private secondary school. Given that most Chicanos come from Catholic backgrounds, one might have expected a larger proportion to have attended parochial high schools.

College-bound Chicanos were less likely than were their non-Hispanic white counterparts to have taken a college-preparatory program in high school. Close to one in five (compared with only 12 percent of college-bound Anglos) had taken some other type of program (e.g., vocational, general). Moreover, they were less likely to have a solid grounding in academic subjects. The proportions reporting that they had taken at least three years in various high school subjects were as follows: in English, 83 percent of the Chicanos versus 92 percent of the Whites; in mathematics, 41 percent versus 54 percent; in natural sciences, 23 percent versus 34 percent; in social studies, 31 percent versus 41 percent, and in foreign languages, 15 percent versus 21 percent.

A larger proportion of college-bound Anglos (13 percent) than of college-bound Chicanos (6 percent) did not list any college when asked where their SAT scores should be forwarded. The proportions listing three or more institutions were about the same for both groups: 60 percent of the Chicanos, 62 percent of the non-Hispanic Whites.

College-bound Chicanos tended to have higher degree aspirations than did their Anglo counterparts, and male Chicanos had higher aspirations than Chicanas. Thus, 30 percent of the male Chicanos, compared with 21 percent of male Anglos, aspired to a doctorate or a professional degree; the analogous figures for women were 21 percent of the Chicanas and 14 percent of the white women. At the same time, a larger proportion of the Chicanos (6 percent of the men, 10 percent of the women) than of the non-Hispanic Whites (4 percent

of the men, 9 percent of the women) planned to get no degree or no more than an associate degree.

In terms of intended major field, the four most popular choices were the same for both Chicano and white students: health fields and medicine; social sciences, including psychology; business, and education. For the fifth choice, college-bound Chicanos named engineering, whereas college-bound Whites named biological sciences.

Finally, 44 percent of college-bound Chicanos, compared with only 25 percent of their Anglo counterparts, planned to live with their parents while attending college; this difference probably reflects the more limited financial resources of Chicanos, as well as their greater tendency to enroll in community colleges.

Other differences between college-bound Chicano and white students in high school are revealed in data collected by the American College Testing (ACT) program. Chicanos tended to be more constrained in their college choice in that they were less willing than their white counterparts were to attend a college far from home, less able to pay high tuitions, and more inclined to attend a community college (Munday, 1976). These are formidable barriers for anyone to overcome.

Entering Freshmen

Data on entering freshmen at a nationally representative sample of higher education institutions come from the Cooperative Institutional Research Program (CIRP), which annually since 1965 has surveyed first-time, full-time freshman classes. Table 11 summarizes findings on selected student input characteristics for Chicanos and for all freshmen in 1971 and 1979; thus, not only can we compare Chicano freshmen with freshmen-in-general but also we can get some sense of trends over the decade of the 1970s.

Table 11

Characteristics of Entering Freshmen, 1971 and 1979
(in percentages)

Characteristic	All Freshmen 1971	All Freshmen 1979	Chicanos 1971	Chicanos 1979
Father's education:				
Less than high school	24.6	18.3	83.2	42.6
College graduate	27..	33.6	3.0	12.1
High school grades: B+ or better	32.4	40.0	18.4	20.6
Need for remedial work:				
English	16.3	11.8	32.3	9.5
Reading	10.6	5.2	15.7	7.2
Mathematics	36.0	21.9	46.0	6.2
Social studies	3.8	2.7	11.5	6.6
Science	21.0	9.3	29.7	17.7
Foreign language	20.8	8.7	11.7	11.6
Reasons for going to college:[a]				
To gain a general education and appreciation of ideas	59.5	68.5	65.3	78.7
To be able to make more money	49.9	63.9	66.5	65.3
My parents wanted me to go	22.9	29.7	39.7	34.3
There was nothing better to do	2.2	2.0	4.1	2.5
Reasons for choosing particular college:[a]				
My parents wanted me to come here	7.8	5.9	16.6	8.0
This college has a very good academic reputation	36.1	49.1	34.9	44.1
This college has low tuition	18.8	16.6	28.8	20.5
This college offers special educational programs	32.6	26.4	26.8	31.9
My guidance counselor advised me	7.2	7.5	9.0	11.8
Distance of college from home: 50 miles or less	50.0	50.2	83.2	74.0
Major concern about ability to pay for college	10.4	14.5	22.5	25.5
Degree aspirations:				
None	6.5	1.8	12.8	4.0
Associate	10.2	7.3	18.4	7.6
Baccalaureate	37.5	36.5	37.0	28.3
Master's	25.9	32.3	17.9	30.6
Doctorate or professional (M.D., LL.B., etc.)	16.4	19.9	8.2	21.3

Table 11--Concluded

Characteristic	All Freshmen 1971	All Freshmen 1979	Chicanos 1971	Chicanos 1979
Expectations:[b]				
Get married while in college	8.4	5.1	34.5	28.7
Make at least a B average	23.6	40.8	73.6	89.3
Have to work at an outside job during college	33.2	23.6	76.9	66.7
Drop out permanently	0.8	1.1	6.7	6.7
Be satisfied with college	57.0	54.3	94.9	93.0
Political ideology:				
Far left	2.8	2.0	3.5	3.7
Liberal	35.3	22.5	31.2	24.0
Middle-of-the-road	46.8	57.9	52.3	55.4
Conservative	14.5	16.6	11.2	15.5
Far right	0.7	0.9	1.8	1.1
Opinions:[c]				
College officials have the right to ban persons with extreme views from speaking on campus	27.8	25.7	33.5	29.6
There is too much concern in the courts for the rights of criminals	48.1	62.4	54.7	65.2
Open admissions should be adopted by all publicly supported colleges	37.2	35.2	61.6	58.0
Even if it employs open admissions, a college should use the same performance standards in awarding degrees to all students	77.5	77.6	78.5	78.6
Women should receive the same salary and opportunities for advancement as men in comparable positions	87.8	92.4	80.0	91.4
Life goals:[d]				
Participating in community action programs	25.9	26.0	33.2	34.1
Being very well-off financially	40.1	62.7	51.7	70.5
Influencing the political structure	14.1	15.4	14.4	15.9
Writing original works	13.2	12.4	10.5	14.2

Source: Cooperative Institutional Research Program

[a]Proportions indicating reason was "very important."

[b]Proportions indicating there was "some chance" or "a very good chance."

[c]Proportions indicating "agree somewhat" or "agree strongly."

[d]Proportions indicating goal was "very important" or "essential."

The Chicano freshman was much more likely than was the "typical" freshman to be a first-generation college student. However, the proportion reporting that their fathers had not even graduated from high school dropped over the decade: from about four-fifths in 1971 to about two-fifths in 1979. Conversely, the proportion of Chicanos reporting that their fathers were college graduates increased fourfold. This change can be interpreted to mean that the general educational level of the Chicano population is increasing; it can also mean that Chicanos from lower socioeconomic backgrounds (as indicated by father's education) are not entering college to the same degree as they were in the early 1970s.

The high school records of Chicanos tended to be somewhat lower than those of freshmen-in-general. In 1979, only half as many Chicanos (21 percent) as all freshmen (40 percent) made B+ or better grade averages in high school. Though the proportions performing at this level increased for both groups over the decade, the increase was more marked among all freshmen than among Chicanos. In 1971, Chicanos were much more likely than were all freshmen to feel they would need remedial work to make up for academic deficiencies, especially in English. Chicanos entering college in 1979, however, seemed much more confident of their academic abilities. The same trend was found among freshmen-in-general; that is, fewer in 1979 than in 1971 thought they would need to take remediation in college. Either the preparation given in high school has improved, or freshmen were making less accurate assessments of their own academic deficiencies in 1979 than in 1971.

Chicano freshmen were somewhat more likely than were freshmen-in-general to say that they were attending college to gain a general education, and the proportions of both groups indicating that this reason was very important increased between 1971 and 1979. The proportions attending college simply

because "there was nothing better to do" declined slightly over the decade. Freshmen-in-general seem to have become more materialistic over the decade, perhaps in response to changes in the national economy (especially the tightening job market): Close to two-thirds in 1979, compared with only half in 1971, said they were going to college in order to be able to make more money. The proportions of Chicanos citing this as a very important reason were about the same (65-66 percent) in both years, suggesting that the lower socioeconomic status of Chicanos has made them generally more aware of and more motivated by financial considerations. For them, a college education has long been viewed as a vehicle for upward mobility in U.S. society. Finally, Chicanos became somewhat less likely to say they were going to college because their parents wanted them to, whereas freshmen-in-general became more likely to mention this reason.

In both 1971 and 1979, Chicanos were more likely than were freshmen-in-general to cite the institution's low tuition and the influence of other people (relatives, guidance counselors) as very important reasons in their selection of a particular institution. They were less likely to cite the institution's academic reputation, though the proportions of both groups saying this was a very important consideration increased. The special educational programs offered by the institution were more attractive to freshmen-in-general in 1971 but more attractive to Chicanos in 1979.

The concentration of Chicanos in community colleges and other "commuter" institutions is reflected in their greater tendency to attend colleges within 50 miles of their homes. Only half the total group of freshmen attended colleges within 50 miles of their homes; the figures for Chicanos were 83 percent in 1971 and 74 percent in 1979; this decline may indicate that more Chicanos are now "going away" to college--a hopeful sign, in

that living in on-campus housing has been found to have favorable effects on persistence and other educational outcomes.

The lower socioeconomic status of Chicano freshmen probably accounts for their greater tendency to express anxiety over college finances: Fully one-fourth in 1979, and almost as many in 1971, said they felt major concern about their ability to pay for college. The proportion of freshmen-in-general expressing major concern increased from 10 percent in 1971 to 14 percent in 1979 (as one would expect given rising college costs). Nonetheless, finances were still much more of a problem for Chicanos; and this difference is underscored when one recalls that Chicanos were more likely than were freshmen-in-general to be attending relatively low-cost institutions.

The degree aspirations of entering freshmen increased during the decade of the seventies: Fewer planned to get no degree or only an associate degree, and a larger proportion planned to get an advanced degree. Rising aspirations were especially characteristic of Chicanos: The proportions planning to get a baccalaureate declined, the proportions planning to get a master's degree almost doubled, and the proportions aspiring to a doctorate or a professional degree increased from 8 percent to 21 percent.

Differences between Chicanos and freshmen-in-general with respect to expectations about college were marked. In both 1971 and 1979, substantially greater proportions of Chicanos expected to get married while in college, to make at least a B average, to work at an outside job, to drop out permanently, and to be satisfied with college. Over the decade, the proportions of Chicanos who thought there was a good chance they would make at least a B average increased, whereas the proportion expecting to get married while in college and to work at an outside job declined; these same trends were found for freshmen-in-general.

Trends in political ideology were about the same for both groups: The proportion saying they were middle-of-the-road increased (though more so among freshmen-in-general than among Chicanos), the proportions characterizing themselves as liberal declined (again, more so among freshmen-in-general than among Chicanos), and the proportions who were conservative increased (more so among Chicanos than among freshmen-in-general). Thus, the distribution of the two groups was closer in 1979 than in 1971. In both years, Chicanos were more likely than were freshmen-in-general to adopt "extreme" positions (far left or far right).

This increasing conservatism is manifested in the increase in the proportions of both groups who agreed that the courts are too concerned with the rights of criminals and the slight decrease in the proportions saying that all public colleges should adopt open admissions. In both 1971 and 1979, Chicanos were much more likely than were freshmen-in-general to agree with the latter statement, but otherwise differences in the attitudes of the two groups were not great. At the same time, both groups became more liberal on student-rights issues (with somewhat fewer agreeing that college officials have the right to ban extremist speakers from campus) and on women's issues (with Chicanos being especially more likely in 1979 than in 1971 to endorse job equality for women).

With respect to life goals, Chicanos gave higher priority than did freshmen-in-general to participating in a community action program; this difference may reflect their greater involvement in grassroots political and social organizations. They were also more likely to regard being very well-off financially as a very important or essential goal; the proportions of both groups endorsing this goal increased substantially over the decade. Again, the greater materialism of today's students may be a response to

recent changes in the economy, which contribute to a growing sense of financial insecurity on the part of the individual and thus a growing desire for such security. The two groups did not differ in the priority they gave to the goal of influencing the political structure, nor were there any changes in the proportions subscribing to this goal. Finally, the proportion of Chicanos concerned with artistic achievement (writing original works) rose, whereas the proportion of freshmen-in-general endorsing this goal declined slightly.

Summary

Though the findings discussed above give only a sketchy picture of Chicano college students, they do indicate some important differences between this ethnic group and the more "typical" undergraduate. Most of these differences are consistent with expectation.

Chicanos tend to come from lower socioeconomic backgrounds, as reflected in parental income and education, and their comparative disadvantagement explains many of their other characteristics: their greater concern over college finances, their greater expectation of having to work at an outside job while in college, their greater tendency to attend nearby institutions and to live at home with their parents, their greater concentration in low-cost community colleges, and their greater emphasis on the financial rewards of college and on the goal of being very well-off financially. It should be pointed out that, over the decade of the 1970s, freshmen-in-general moved somewhat closer to Chicanos in the emphasis they give to financial rewards and goals.

Chicanos tend to enter college with less adequate educational preparation than is true of freshmen-in-general. They are less likely to have been enrolled in college preparatory programs in high school, less likely to have

made outstanding grade averages. Nonetheless, the Chicanos entering college in 1979 were less likely than were their counterparts in 1971 to feel that they would need remedial work and more likely to expect that they would make at least a B average in college. In addition, their degree aspirations were much higher. Although it is impossible to know whether these changes over time reflect improvements in high school preparation or, alternatively, unrealistic expectations, one can say that Chicanos seem to have become increasingly confident of their own abilities and that this growth in self-esteem is a positive sign.

CHAPTER 5

FACTORS INFLUENCING EDUCATIONAL OUTCOMES

This chapter discusses the student input variables and college environmental variables that were significantly related to various educational outcomes among Chicanos. To identify these factors, stepwise multiple regression analysis was used on data from two longitudinal samples: 1975 freshmen followed up in 1977 and 1971 freshmen followed up in 1980. The latter sample was subdivided into two groups: a "limited" sample, consisting only of those Chicanos who completed the 1980 follow-up questionnaire and an "extended" sample comprising--in addition to respondents in the limited sample--those Chicanos for whom data were available from the telephone follow-up and from the rosters. (For a more detailed description of the samples, the outcome measures, and the independent variables, see the appendix.)

Findings for the 1975-77 Sample

The first sample--consisting of Chicanos who had entered college in 1975 and were followed up two years later, in 1977, at which time they presumably had completed the sophomore year--numbered 534. Three outcomes were examined: persistence, grade-point average (GPA), and satisfaction.

Persistence

Of the student input variables, the strongest predictor of persistence was the Chicano student's high school grade average: The higher the student's grades in secondary school, the more likely the student was to be enrolled full time in college two years after matriculation (Table 12). Similarly, Chicanos who took a college preparatory program in high school

Table 12

Significant Predictors of Educational Outcomes

Characteristic	Persistence (1975-77)	GPA (1975-77; 1971-80)	Satisfaction (1975-77)	Baccalaureate Completion (1971-80)	Graduate Attainment (1971-80)
High school background:					
High school grades	+	+		+	
SAT-Verbal score		+			
College preparatory curriculum	+				
Well-prepared in mathematics			+		
Need help in writing	-				
Need help in study skills			+		
Demographic:					
Age		+			
Sex: Female	-				
Family background:					
Mother's education	+				
Parental income		+	+		
Father's occupation: Medical professional					+
Father's occupation: Businessman	-				+
Father's occupation: College professor					+
Father's occupation: Lawyer		+			
Mother's occupation: Schoolteacher					+
Self-concept:					
Self-rating: Writing ability				+	
Self-rating: Intellectual self-confidence					+

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Table 12--Concluded

Characteristic	Persistence (1975-77)	GPA (1975-77; 1971-80)	Satisfaction (1975-77)	Baccalaureate Completion (1971-80)	Graduate Attainment (1971-80)
Expectations:					
To marry while in college	+				
To drop out permanently	-				
To seek personal counseling	-		-		
To be satisfied with college			+		
Financial concern			-		
Probable major field:					
Engineering	-				+
Arts and humanities		+	+		
Social studies		+	-		
Freshman career choice:					
Nurse		+			
Medical professional					+
Lawyer					+
Institutional/Environmental:					
Public two-year college				-	
Private two-year college	-				
Private university		-	-		
Proportion of women in student body		+			
Tuition	+				
Live on campus		+	-		

Source: Special analyses conducted at the Higher Education Research Institute

were more likely to persist than were those who had been enrolled in other curricula (e.g., vocational, general). Chicanas were more likely than were their male counterparts to drop out of college.

Of the family background variables, mother's education was most important: The higher the educational attainment of the mother, the more likely the Chicano student was to persist over the first two years of college. In addition, those whose fathers were businessmen had a slightly greater tendency to drop out of college than did those whose fathers were in other occupations.

As is true of other college students, the initial expectations of Chicanos about their futures were related to their persistence in higher education. For example, those who, as freshmen, indicated that there was a very good chance they would drop out of college permanently were less likely to be enrolled in college two years later than were those who said there was little chance they would drop out. The policy implication of this finding is that colleges should offer greater support to those Chicanos who perceive themselves as potential dropouts.

After the expectation of dropping out of college was controlled, the expectation of getting married while in college proved to be positively related to persistence. The implication is that those Chicanos who think it likely that they will get married while in college but who do not think it likely they will leave school have a deeper commitment to completing their education and thus are more inclined to persist.

In addition, those Chicanos who, as freshmen, felt they would need remedial work or tutoring in writing and those who anticipated they would seek personal counseling had a tendency to drop out. Apparently, these

Chicano freshmen made accurate assessments of their own abilities and needs: Those who doubted their writing competence or who felt they had personal problems that might require them to seek counseling may have been subject to pressures that precipitated their withdrawal.

Finally, those Chicano freshmen planning to major in engineering were less likely than those reporting other probable majors to be enrolled in college two years after matriculation. The probable explanation here is that engineering courses are more academically demanding than courses in many other fields; because they do not do well in such courses during their first two years of college, Chicano students may become discouraged and may drop out.

Only two college environmental variables were related to persistence over the first two years of college. The first was tuition: Chicano students who entered institutions that charge high tuition were more likely to persist than were those enrolling in low-tuition institutions. One explanation for this finding is that the category of high-tuition institutions includes a number of Catholic colleges, where Chicanos may feel more comfortable and less alienated and which may offer strong support services. On the other hand, Chicanos entering private two-year colleges (only 1 percent of the sample) were more likely than those entering other institutional types to drop out. Why private two-year colleges should have this negative effect on persistence is not clear.

Grade-Point Average

As was the case with the outcome of persistence, the best predictor of college GPA is high school GPA: Chicano students who made good grades in high school were likely to continue making good grades during the first

two years of college. This finding is consistent with a body of research. In addition, Chicano students who scored high on the Verbal subtest of the Scholastic Aptitude Test (SAT) tended to make good grades in college, even after their high school grades were taken into account. Thus, language proficiency seems especially important to the college performance of Chicanos.

Of the demographic variables used in the regression analysis, age was positively related to college GPA, once high school grades were taken into account. That is, older Chicano freshmen tended to make lower grades in high school than did their traditional-age counterparts; but making allowances for this difference, older Chicanos made somewhat higher GPAs during the first two years of college, perhaps because they were more certain about their goals and more committed to their studies.

Chicano students who came from relatively high socioeconomic backgrounds (as indicated by parental income and by having a father who was a lawyer) made better grades during the first two years of college than did those from lower socioeconomic backgrounds. Parental income probably has both direct and indirect effects on the student's college performance. Families who have financial resources can provide their college-going children with many advantages (more books in the home, easier transportation to and from the campus, etc.). Moreover, students who are free of financial anxiety can devote more energy to their studies. A similar argument can be constructed about the advantages of having a father who is an attorney, since law represents a high-status and lucrative profession that attracts motivated individuals.

Three college environmental variables were related to GPA. Chicanos (like other students) who attended private universities tended to make

lower GPAs during the first two years of college than those entering other types of institutions, a relationship that is explained by the higher selectivity and greater competitiveness of the private university. Those who entered institutions with a high proportion of women in the student body tended to make good grades, probably because such institutions have an ethos that emphasizes excellence in undergraduate teaching. Finally, Chicanos who lived on campus (i.e., in college residence halls) made better grades than did those living off campus (e.g., at home with their parents, in private apartments). Past research shows that living on campus has positive effects on a number of college outcomes, primarily because this residential arrangement facilitates deeper involvement in campus life.

Satisfaction

The respondent's satisfaction with the first two years of college was assessed by means of a College Satisfaction Index that was constructed by totaling the number of items (from a list of 28 college programs, services, and activities) which the respondent rated as satisfactory. This index became the outcome measure in this regression analysis.

The most important student input variable related to satisfaction was preparation in mathematics: Those Chicanos who felt that their high schools had prepared them well in mathematics were more likely to be satisfied with college after the first two years, perhaps because they had a greater sense of academic competence and self-worth and thus felt more comfortable in the college environment.

Parental income was positively related to satisfaction as well as to GPA. Consistent with this finding, those Chicanos who as freshmen expressed little concern about their ability to pay for a college education were more likely to be satisfied. It is reasonable that students who are from relatively

affluent backgrounds and thus free of financial anxiety should be better able to relax and enjoy the college experience than are those from low socioeconomic backgrounds who are worried that they may have to quit school because of lack of funds.

Three freshman expectations were associated with satisfaction. Those Chicanos who, as freshmen, said there was a good chance they would be satisfied with college were likely to express satisfaction after the first two years. Thus, it seems that simply asking students to predict the likelihood of a given outcome produces useful and valid information. In addition, those Chicano freshmen who expected to need help in improving their study skills were likely to be satisfied with college (perhaps because their early recognition of academic deficiencies led them to make realistic efforts to improve themselves and thus to gain a sense of satisfaction in themselves), whereas those who expected to seek counseling for personal problems were likely to be dissatisfied (perhaps because their personal problems interfered with their ability to enjoy college life).

Probable major field was also related to satisfaction with college. Those Chicanos who, as freshmen, intended to major in arts and humanities were likely to be satisfied with college, whereas those intending to major in social sciences were likely to be dissatisfied.

Two college environmental variables proved to be significant in the analysis for satisfaction. In addition to making lower GPAs, Chicanos entering private universities tended to feel dissatisfied; the highly competitive environments of these institutions may alienate many Chicano students. Finally, Chicanos who lived on-campus tended to be dissatisfied. This finding is contrary to most research, which shows that living on-campus generally has positive effects on students. It may be that Chicanos

living in college dormitories experience discrimination and feel isolated, whereas those living at home receive more psychological support and assurance from their families and friends.

Findings for the 1971-80 Limited Sample

The "limited" sample comprises 315 Chicanos who, when they entered college as freshmen in 1971, aspired to at least a baccalaureate and who responded to the 1980 follow-up questionnaire. Of this sample, about three-fifths had achieved their initial degree goal; that is, had completed a baccalaureate by 1980. In addition, 37 percent of the sample had pursued advanced study at some point, 17 percent had earned a master's degree, 5 percent had earned a doctorate or professional degree, and 5 percent were still working toward a doctorate or professional degree at the time of the survey.

Three outcomes were examined in this set of regression analyses: baccalaureate attainment, college GPA, and graduate attainment.

Baccalaureate Attainment

Two student input variables were related to attaining at least a baccalaureate: Chicanos who made good grades in high school and who, as freshmen, rated themselves high on writing ability were more likely to complete four years of college than were those who made relatively poor grades in high school and gave themselves low ratings on writing ability. Since high school grades were also important predictors of persistence and of college grades for the 1975-77 sample, the implication is that the high school records of Chicanos are important to their performance in college. A sense of competence and proficiency with the English language would also seem to be important.

The only college environmental variable that proved significant was attendance at a public two-year college, which was negatively related to baccalaureate attainment. This finding confirms a body of research that suggests community colleges have unfavorable effects on Chicanos (and on students from other ethnic backgrounds as well). Even those who enter the community college expecting to transfer to a senior institution frequently fail to realize their plans. This finding deserves emphasis because of the overrepresentation of Chicanos in community colleges. Since many Chicanos come from low-income backgrounds and get inadequate preparation in high school, they are unable to enroll in the more selective and expensive four-year colleges and universities. Recommending that Chicanos avoid community colleges is obviously not very practical. It may, however, be possible to introduce certain reforms into community colleges that would mitigate their negative impact on the educational achievement of Chicanos. This suggestion is discussed at greater length in Chapter 9.

College GPA

Three of the variables significantly related to college GPA for the 1975-77 sample were also significantly related to college GPA for the 1971-80 sample: Those Chicanos who made good grades in high school and who came from relatively high-income backgrounds were likely to make good grades during the four undergraduate years, whereas those who attended private universities were less likely to make high college GPAs.

In addition, several freshman major field and career choices were positively related to college grades for the 1971-80 sample: Those Chicanos who, at the time they entered college, planned to major in arts and humanities or in social sciences and who planned to enter nursing as a career were more

Table 13

Environmental Characteristics Related to Persistence, 1971-80

(partial correlations)

Characteristics	Partial Correlation
Public institution:	
Public university	.05
Public four-year college	.08
Public two-year colleges	-.20
Private institution:	
Private four-year college	.07
Institutional quality:	
Prestige	.13
Selectivity	.15
Tuition	.12
Educational expenditures	.17
Average faculty salary	.11
Financial aid:	
Grant	.11
Federal loan	.07

Source: Special analyses conducted at the Higher Education Research Institute.

likely to make good grades over the four undergraduate years than were those with other major fields and career choices.

Graduate Attainment

Those Chicanos who, in 1980, reported either that they had received a doctorate or professional degree or that they were currently working toward such a degree tended, as freshmen, to give themselves high ratings on intellectual self-confidence and to come from high socioeconomic backgrounds, as indicated by parents' occupation (having fathers who were medical professionals, businessmen, or college professors; having mothers who were elementary or secondary teachers). Moreover, they were likely, as freshmen, to indicate that they planned to major in engineering or to enter careers in medicine or law.

Findings for the 1971-80 Extended Sample

In order to learn as much as possible about the college environmental characteristics that affect the educational attainment of Chicanos, we drew on data from a larger sample of those who had entered college as freshmen in 1971. The "extended" sample, numbering 13,500, comprises those Chicanos who responded to the follow-up questionnaire (i.e., the limited sample), those who were interviewed by telephone, and those for whom data were available through the rosters, which were completed by college registrars (see appendix). The outcomes examined in this regression analysis were baccalaureate completion and graduate attainment. Table 13 reports the significant partial correlations between these educational outcomes and college environmental variables, after student input variables had been controlled. Significant environmental variables were of three kinds: institutional type, quality measures, and financial aid.

As was reported earlier, Chicano freshmen entering community colleges were substantially less likely to complete the baccalaureate than were those entering other institutional types. Public universities and four-year colleges and private four-year colleges had positive effects on the persistence of Chicanos.

Attendance at a high-quality institution (as measured by the prestige, selectivity, tuition, per-student expenditures for educational purposes, and average faculty salary) substantially increases the Chicano student's chances of completing the baccalaureate and of pursuing advanced training.

Finally, those Chicanos who got grants or federal loans to help pay their college expenses were more likely to complete the baccalaureate than were those who did not draw on these sources of support. Though a body of research shows that grants have positive effects on persistence, an earlier study of the 1975 freshmen followed up in 1977 indicated that loans usually have a negative impact (Astin & Cross, 1979). The best explanation for the apparently contradictory finding here is that federal loan programs in 1971 had several features that differed from those of federal loan programs in the mid-1970s. Most important, they were administered through the institutions rather than through the banks.

Summary

Certain consistent findings emerge from these regression analyses. Of the student input variables, high school preparation--especially grade average--was of primary importance in predicting college outcomes. Chicanos from relatively high socioeconomic backgrounds--as measured by parental income, education, and occupation--were obviously at an advantage. Chicanos who entered college feeling relatively self-confident of their academic ability (e.g., saying that they were well-prepared in mathematics, giving

themselves high ratings on writing ability and intellectual self-confidence) tended to do well. Conversely, those who gave themselves low ratings on writing ability and who felt they will need help in writing tended to drop out.

The student's own predictions have considerable validity. Chicanos who, as freshmen, said there was a good chance they would drop out permanently tended to be dropouts; those who said there was a good chance they would be satisfied with college were likely to be satisfied. Those who anticipated having to seek counseling because of personal problems were likely to drop out and to be dissatisfied with college.

Attending a public two-year college had strongly negative effects on the Chicano student's persistence, whereas attending a private university had negative effects on college grades and satisfaction. Attending a high-tuition institution was positively related to persistence; high tuition, it should be pointed out, is one characteristic of high-quality institutions.

Findings with respect to residential arrangements were mixed. Chicanos who lived in on-campus housing were likely to make good grades but to feel dissatisfied with their college experience.

CHAPTER 6

CAREER CHOICE AND DEVELOPMENT

As was pointed out in Chapter 3, Chicanos are severely underrepresented in high-level occupations (for instance, administrative and managerial positions, the professions) and concentrated in low-status jobs (for instance, farm worker, service worker). A primary objective of higher education is to broaden the career options available to graduates and to train more people for positions of influence and status in U.S. society. Thus, the career choices of Chicano students are of special interest. This chapter examines trends in career choices, stability and change in career plans, the representation of Chicanos in various fields, and factors influencing career choice.

Trends in Expected Major Fields and Career Plans

The annual freshman survey of the Cooperative Institutional Research Program (CIRP) asks entering freshmen to indicate their probable major field of study and their career plans. Table 14 shows the proportions of Chicano freshmen naming selected major fields in 1971 and in 1979; Table 15 gives the same information with respect to career plans.

The most obvious change over the decade of the 1970s is the greatly increased popularity of business, both as a major and as a career choice. In 1971, business ranked fourth as an intended major and second as a career choice; in 1979, it was top-ranked on both lists, with the proportions of Chicano freshmen naming business as their major field and career choice doubling. This shift was not unique to Chicanos; business became more popular with all freshmen, probably as a result of the tightening job market, which made college students more career-minded and more oriented toward

Table 14

Expected Majors of Chicano Entering College Freshmen, 1971 and 1979
(in percentages)

Expected Major	1971	1979
Business	11.5	21.6
Engineering	8.0	6.8
Biological sciences	1.3	3.9
Physical sciences and mathematics	1.7	1.9
Education	13.7	11.0
Allied health	9.2	7.1
Arts and humanties	12.1	9.4
Social sciences	12.8	8.7

Source: Cooperative Institutional Research Program.

Table 15

Career Choices of Chicano Entering College Freshmen, 1971 and 1979
(in percentages)

Career Choice	1971	1979
Allied health worker	3.3	4.6
Businessperson	9.4	20.1
Engineer	6.5	6.0
Elementary or secondary school teacher	21.7	9.3
Lawyer	3.4	5.6
Physician	3.2	6.6
Nurse	5.6	3.2

Source: Cooperative Institutional Research Program.

"practical" fields.

The other most notable change is the decline in those planning to become elementary or secondary school teachers: from 22 percent in 1971 to 9 percent in 1979. The proportions planning to major in education also dropped, though not so sharply: from 14 percent to 11 percent. On both lists, education/teaching dropped from first to second place in popularity. Again, this change reflects changes in the job market: As the school-age population has declined, so has the demand for teachers, and entering freshmen seem to be responsive to this market change.

Between 1971 and 1979, the proportions of entering Chicano freshmen naming arts and humanities, social sciences, allied health fields, and engineering as their probable major fields of study declined, whereas the proportions naming biological sciences increased. With respect to career choice, the proportions planning to become physicians (or other medical professionals), lawyers, and allied health professionals increased, whereas the proportions planning to become nurses dropped, as did the proportions planning to become engineers (though very slightly). The increased popularity of law and medical professions as career choices (like the growth in the proportions of Chicanos planning to get doctorate or professional degrees, noted in Chapter 4) suggests that the aspirations of Chicanos are rising.

Stability and Change in Career Plans

The career choices of entering freshmen are, by their very nature, tentative and subject to change. As the individual becomes more knowledgeable about the rewards and satisfactions of various careers, more aware of the job market, and more certain about his/her own abilities and interests, that individual's career choice is likely to change.

The stability of various career choices was examined, first over a two-year period, using the longitudinal sample of 1975 entering freshmen followed up two years later, in 1977, at which time they were presumably entering their junior year of college. The analysis confirmed that freshman career choices are highly subject to change: Close to three-fifths (58 percent) had changed their career plans over the two-year time span. The most stable career choice was that of allied health professional: 63 percent of Chicanos naming that choice in 1975 also named it in 1977. Since many allied health fields require no more than an associate degree, it seems likely that many of the students who entered college in 1975 had rather modest degree aspirations that required only short-term training and that they had realized these aspirations by 1977, received the associate degree, and entered their chosen field. Other career choices with relatively high stability rates were computer programmer (57 percent), lawyer (54 percent), engineer (50 percent), medical professional (47 percent), and business (46 percent).

Regression analysis indicated that stability of career choice (regardless of what that career choice was) was associated with father's education and with student's grade average in high school. The higher the father's educational attainment, and the higher the student's grades in high school, the more likely that student was to name the same career choice in 1977 as in 1975. The implication is that more academically able Chicanos from relatively affluent backgrounds make more informed and realistic career choices as freshmen--perhaps because of greater awareness of both themselves and the job world--and thus have less reason to change their initial choices.

Over the two-year span, the career choices that became more popular were businessperson, college professor/scientific researcher, allied health

worker, and computer programmer. The career choices that became less popular were artist, medical professional, elementary or secondary school teacher, and lawyer.

Of course, the career choice named by an individual entering the junior year of college is not necessarily the career that individual will actually enter. Nine years after matriculation, however, one's career choice has firmed up; indeed, most people are working in their careers. The analysis of stability and change was repeated, using the 1971-80 sample; the results are shown in Table 16. The most stable career choices were nurse (58 percent), elementary or secondary school teacher (40 percent), and engineer (31 percent). The proportion of Chicanos naming businessperson as their career choice more than tripled: from 4 percent in 1971 to 15 percent in 1980; presumably many of these people actually had jobs in business. The proportion naming college teacher/scientific researcher as their career choice also tripled: from 4 percent in 1971 to 12 percent in 1980; this increase is consistent with the fact that about 16 percent of this group of Chicanos had earned graduate degrees (which are generally required for such jobs). The career choice of nurse increased slightly in popularity. The career choices that decreased in popularity were elementary and secondary school teacher, medical professional, engineer, and lawyer. One implication of these findings is that many Chicanos were not able to realize their initially high aspirations; perhaps the long and arduous training required to become a physician or a lawyer discouraged them from fulfilling their ambitions.

Representation in Various Fields

This section examines the representation of Chicanos, at different levels of the educational pipeline, in eight major field categories, selected

Table 16

The Relationship of the 1971 and 1980 Career Choices of Chicanos
(in percentages)

Career Choice	1971	1980	Stability Rate	Difference
Businessperson	4.4	14.6	.00	+10.2
Engineer	5.1	2.9	.31	- 2.2
Lawyer	5.4	4.8	.14	- 0.6
Nurse	2.5	4.1	.58	+ 1.6
Medical professional	6.0	1.6	.18	- 4.4
Allied health worker	3.5	3.5	.06	0.0
Elementary/secondary school teacher	23.8	17.1	.40	-6.7
College teacher or scientific researcher	3.8	11.8	.03	+8.0

Source: Cooperative Institutional Research Program.

for analysis because they are popular choices, because they lead to high-level careers, or for both these reasons. Together, these categories accounted for about 90 percent of all baccalaureates awarded in 1978-79. (For further information on the specific majors included in each category and on the data sources and methodology, see the appendix.)

Table 17 indicates the proportions of the total Chicano group at each level naming or taking a degree in the various field categories. As was pointed out earlier in this chapter, at the freshman level the most popular major field choices among Chicanos were education (named by 14 percent as their probable major), social sciences (13 percent), and arts and humanities (12 percent); the least popular were biological sciences (named as a probable major by only 1.3 percent) and physical sciences and mathematics (1.7 percent). At the baccalaureate level, however, this order changes slightly; in 1975-76, (when the 1971 freshmen who made "normal" progress would have completed college), Chicanos were most likely to get the degree in social sciences (26 percent), followed by education (17 percent), arts and humanities (16 percent), business (15 percent), and biological sciences (6 percent). Education was once again the top choice at the graduate level: 43 percent of all master's degrees and 30 percent of all doctorates awarded to Chicanos were in the field of education. Among Chicanos earning master's degrees, social science was the next most popular choice (18 percent), followed by business (11 percent). At the doctorate level, close to one-quarter earned a degree in the social sciences, 18 percent got a PhD in arts and humanities, and 8 percent got a degree in biological sciences. Relatively few Chicano doctorate-recipients got the degree in allied health fields (.9 percent) or business (1.1 percent), probably because not many doctorates are awarded in these fields. Though the proportions fluctuate somewhat, education, social

Table 17

Distribution of Chicanos Among Major Field Categories

(in percentages)

Major Field	Entering Freshmen, 1971	Baccalaureate Recipients 1975-76	Master's Degree Recipients 1978-79	Doctorate Recipients 1978-79
Allied helath	9.2	4.8	5.2	.9
Arts and humanities	12.1	16.3	8.9	17.9
Biological sciences	1.3	5.7	1.8	7.5
Business	11.5	15.2	11.6	1.1
Education	13.7	17.0	43.3	30.0
Engineering	8.0	4.7	3.3	4.9
Physical sciences and mathematics	1.7	2.7	1.6	6.8
Social sciences	12.8	26.5	18.1	23.0
		N=15,732	N=3,882	N=272

Sources: Cooperative Institutional Research Program; National Center for Education Statistics, Department of Health, Education, and Welfare, Data on Earned Degrees Conferred from Institutions of Higher Education by Race, Ethnicity and Sex. Academic Year 1975-1976, (2 vols., 1979) and Racial, Ethnic and Sex Enrollment Data from Institutions of Higher Education: Fall 1976, (1978).

sciences, and arts and humanities are fairly consistent top-ranked choices among Chicanos; the biological sciences grow in popularity over time.

Table 18 indicates the proportions of Chicanos among all students at a given level in the particular major field category. The loss of Chicanos at each higher level of the pipeline is indicated by the decline in proportions: Thus, Chicanos constituted 2.2 percent of the entering freshman class in 1971 but only 2 percent of the baccalaureate recipients in the 1975-76 academic year, 1.5 percent of the master's-degree-recipients in 1978-79, and 1 percent of the doctorate-recipients in 1978-79. Relative to their proportion among all freshmen, they were overrepresented among those choosing education and engineering but underrepresented among those choosing arts and humanities, biological sciences, and physical sciences and mathematics. At the baccalaureate level, the largest proportions were found among those taking a degree in social sciences or arts and humanities, and the lowest proportions among those receiving the baccalaureate in allied health fields or physical sciences and mathematics. At the master's level, slightly larger-than-average proportion got a degree in social sciences, education, arts and humanities, or allied health; at the doctorate level, they accounted for a slightly larger-than-average proportion of the degrees in arts and humanities, education, and the social sciences. As is also indicated in the table, Chicanos were fairly well represented among recipients of medical and law degrees.

In summary, Chicanos were best represented in education, social sciences, and arts and humanities; their preferences for these fields were apparent at the freshman level and persisted over time. Though the biological sciences increased in popularity between the freshman and the doctorate level, Chicanos were underrepresented among those earning doctorates in this major field category; they were also persistently underrepresented among

Table 18

Chicanos as a Proportion of the Total in Each Major Field Category

(in percentages)

Major Field	Entering Freshmen, 1971	Baccalaureate Recipients 1975-76	Master's Degree Recipients 1978-79	Doctorate Recipients 1978-79
Allied helath	2.1	1.4	1.4	.3
Arts and humanities	1.2	1.9	1.1	1.5
Biological sciences	.8	1.7	1.1	.6
Business	2.2	1.7	1.0	.4
Education	3.0	1.7	1.5	1.1
Engineering	2.5	1.7	1.1	[illegible]
Physical sciences and mathematics	.7	1.2	.8	.6
Social sciences	2.1	2.0	1.8	1.1
Total (all fields)	2.2	2.0	1.5	1.0

	Entering Freshmen, 1971	Enrolled in Professional School Fall 1976	Recipients of Prof. Degrees Fall 1978-79
Dentistry, medicine, veterinary medicine	1.0	1.7	1.7
Law	2.0	1.7	1.5

Sources: Cooperative Institutional Research Program; National Center for Education Statistics, Department of Health, Education, and Welfare. Data on Earned Degrees Conferred from Institutions of Higher Education by Race, Ethnicity and Sex, Academic Year 1975-1976, (2 vols., 1979) and Racial, Ethnic and Sex Enrollment Data from Institutions of Higher Education: Fall 1976, (1978); data provided by the Association of American Medical Colleges and the American Bar Association.

those earning degrees in the physical sciences and mathematics.

Table 19 shows the mean SAT scores of Chicanos and Whites in each of the major field categories. The rank-order for the two groups is about the same: The highest-scoring students chose the sciences or engineering; the lowest-scoring students chose education. The difference between the highest mean for Chicanos (i.e., those choosing engineering) and the lowest mean (i.e., those choosing education) is 267 points, well over two standard deviations. As the earlier discussion indicated, Chicanos were overrepresented in the two fields which attract the lowest-scoring students and thus are presumably the least demanding. Conversely, they were underrepresented in the physical science and mathematics, which attract the best prepared students. On the other hand, Chicanos were fairly well represented in the social sciences, which fall in the middle range with respect to student ability.

Factors Influencing Major Field and Career Choice

To determine what personal and environmental factors influence the Chicano student's choice of a major field and a career, we conducted a series of stepwise multiple regression analyses, using both the 1975-77 and the 1971-80 longitudinal samples. One general finding to emerge from these analyses was that a student's earlier choice of a particular major field or career was one of the best predictors of his/her later choice of that field; despite the instability of freshman career choices, then, they have some validity and reliability over time. A second finding was that Chicanas tended to end up working in traditionally "female" careers like nursing and elementary/secondary school teaching. Other results from the regression analyses are summarized below for five major fields/career choices: business, engineering, medical professions, law, and college teaching/scientific research.

Table 19

Mean SAT and Rank by Field of Study

Major Field	Mean SAT (V+M)		Rank	
	Whites	Chicanos	Whites	Chicanos
Physical sciences and mathematics	1142	1016	1	2
Engineerng	1109	1018	2	1
Biological sciences	1066	921	3	3
Social sciences	1029	866	4	4
Allied health	958	846	5	5
Business	950	807	6	7
Arts and humanities	930	845	7	6
Education	884	751	8	8

Source: Astin, Christian, & Henson, 1977.

Business

Chicanos interested in business as a major field or career choice were likely to have fathers who were businessmen. They made relatively poor high school grades (a finding consistent with the relatively low mean SAT scores of students in these fields) and had low degree aspirations when they entered college. In addition, they tended to rate themselves low on creativity, writing ability, artistic ability, and public speaking ability. As reasons for choosing a career in business, they were likely to emphasize extrinsic rewards: a favorable job market, opportunitities for rapid career advancement, good pay and fringe benefits, job security, and status.

The only college environmental variable that proved significant in this analysis was living at home with parents while attending college, which was negatively related to a career choice of businessperson.

Engineering

Chicano college students choosing engineering as a major field or career were likely to have fathers who were engineers, to rate themselves high on mechanical ability, and to say that their high schools had not prepared them well in foreign languages. They were perhaps most distinguished by their life goals, emphasizing occupational achievement and material success (becoming an authority in their field, making a theoretical contribution to science, being very well-off financially) but giving low priority to social service goals (helping others in difficulty, participating in community action programs, influencing social values). In short, consistent with the stereotype, they tended to be "hard-headed" practical types.

Chicanos (and other students) initially choosing engineering were less likely to persist in this choice if they attended private four-year colleges. Since most of these institutions emphasize the liberal arts, it is not sur-

prising that they have this negative effect on the choice of engineer as a career.

Medical Professions

This category--which includes medicine, optometry, dentistry, and veterinary medicine--tends to "lose" recruits over the first two years of college; that is, 20 percent of entering Chicano freshmen in 1975 said they planned to become medical professionals, but only 11 percent named this career choice two years later, in 1977. The most probable explanation for this loss is that students enrolling in premedical curricula (i.e., biological and physical sciences, mathematics) receive relatively low grades during their first two years of college and come to recognize the heavy demands and work requirements of a medical career.

Those Chicano students persisting in this choice tended to have parents who worked in the professions, to be outstanding academically (making good grades in high school), and to be confident of their own abilities (rating themselves high on intellectual self-confidence, expecting to graduate from college with honors). As a reason for choosing the medical professions, they were likely to cite the chance to serve society; contrary to the popular stereotype, however, they were relatively unconcerned with having personal autonomy in their work.

Attending a public university located some distance from home had a positive effect on the choice of the medical professions.

Law

Like those choosing the medical professions, Chicanos choosing law as a career tended to have parents who worked in the professions. They were unlikely to say they had chosen the field of law for intrinsic reasons:

interest in the field, the opportunity to work with people they liked, the opportunity to use their skills and training, or a desire to contribute to society. These students rated themselves high on public speaking ability. Somewhat surprisingly, working more than half time while attending college was positively associated with a career choice of lawyer. Being able to keep up with college studies at the same time that one is employed at an outside job demonstrates strong determination and drive to achieve, which may be important requirements for success in law school.

Attending a large institution or an institution located in the Northeast were positively associated with this career choice.

College Teaching/Scientific Research

Like those choosing law and medicine, Chicanos choosing college teaching or scientific research as career fields were likely to have parents who worked as professionals. They also tended to be somewhat older than the average college student, to rate themselves high on academic ability, and to attend college for such reasons as wanting to gain a general education, to learn about things that interest them, to prepare for graduate or professional school, to meet new and interesting people, and to have an opportunity to contribute to society.

During the college years, college teaching/scientific research gained recruits, many of them defectors from initial career choices of lawyer or elementary/secondary school teacher. The implication is that exposure to the college environment awakens an interest in college teaching, especially among Chicanos who had high aspirations and an interest in teaching to begin with. Many freshmen probably enter college never having considered college teaching as a possible career; their undergraduate experience leads them to

aspire to a career in the classrooms or research laboratories of academe. Such seems to be the case for Chicanos, despite the lack of Chicano faculty to serve as role models.

Summary

Among Chicanos as among all entering freshmen, business became more popular both as a probable major field and as a career choice over the decade of the 1970s, whereas elementary and secondary school teaching became less popular, probably in response to market forces. Chicanos entering college in 1979 were also more likely than were their counterparts in 1971 to plan on careers in medicine or law, evidence of rising aspirations on the part of this minority group. Moreover, during the college years, the fields of business, college teaching, allied health, and nursing tended to gain recruits. Fields suffering net losses included the medical professions, education, law, and engineering. Thus, their college experiences seem to depress the aspirations of Chicanos to some degree.

At every level of the educational pipeline, from freshmen entry to the doctorate, Chicanos are overrepresented in education, arts and humanities, and social sciences. The first two of these field categories typically attract students with relatively poor high school preparation, as manifested by their SAT scores. Chicanos were most severely underrepresented in the physical sciences and mathematics, fields that are relatively demanding.

The field of business seems to attract Chicanos with low high school grades, a poor self-image, and limited aspirations who are interested in the extrinsic rewards of a job. Those choosing engineering are concerned with occupational achievement and material success. The medical professions and college teaching/scientific research are the choice of academically able Chicanos who want an opportunity to serve society. In addition, those choosing

college teaching are likely to cite "traditional" liberal-arts reasons for attending college. Those Chicanos who ended up as lawyers (or in law school) were distinguished by having held jobs while in college. The type of college attended seemed to have little influence on career choice, except that attending a large institution in the northeast was positively associated with a law career, whereas attending a private four-year college was negatively associated with an engineering career.

CHAPTER 7

VIEWS AND EXPERIENCES OF CHICANO PROFESSIONALS

Chicanos (and other minority-group members) who have made it through the higher education system and have achieved positions of status and influence can provide useful information and valuable insights that will guide policymakers and educators concerned with making equality of educational opportunity a reality. To draw on this potentially rich resource, the HERI staff undertook three surveys of minority professionals: (1) a survey of faculty, minority and majority, at 95 institutions, including many of those institutions which the 1971 freshmen had entered; (2) a survey of minority academic personnel; and (3) a survey of minority individuals who had been awarded fellowships under the Ford Foundation's Graduate Fellowship Program. The results of those surveys are discussed in this chapter. (For a fuller discussion of the samples and methodology, see the appendices.)

Comparison of the Attitudes of White and Minority Faculty

Respondents to the faculty survey included 8,305 respondents who were non-Hispanic Whites and 425 respondents from one of the four minority groups investigated in this project, including 20 Chicanos. Thus, Whites constituted 95 percent of the sample, and minorities 5 percent. (Asian-American faculty who responded to the survey were excluded from the sample.) Although the number of Chicanos in the sample is very small, their responses were similar enough to those of the total minority group to permit meaningful comparisons with the responses of white faculty.

One set of questions on the survey form asked respondents to indicate their agreement or disagreement with a number of statements related to minority issues. Table 20 shows the responses of white faculty, Chicano faculty, and total minority faculty. The views of majority and minority faculty most closely coincided on the question of communication between students of different racial/ethnic origins: At least three-fifths of all three groups believed that such communications were good on their campus. In addition, about two-thirds of the white and total minority faculty (but only half of the Chicano respondents) felt that most faculty at their institutions were interested in the academic problems of undergraduates.

On the other seven questions, however, the views of minority and majority faculty differed drastically. Thus, two-thirds of the minority respondents, but only 27 percent of the majority respondents, believed that most American colleges and universities are racist. Minority faculty were almost three times as likely as white faculty to perceive the existence of racial conflict on their campuses, though the actual proportions agreeing with this statement were small (20 percent and 7 percent, respectively).

Conversely, majority faculty were much more likely than were minority faculty to subscribe to the general views that increases in minority enrollments lead to a lowering of academic standards and that affirmative action has detrimental effects on higher education institutions.

Majority and minority faculty differed not only in their perceptions but also in their opinions as to what role higher education institutions should play in remedying past inequities. Thus, over seven in ten minority respondents, but fewer than half (45 percent) of the white respondents, believed that solving social problems should be part of their institution's mission.

Table 20

A Comparison of the Opinions of White and Minority Faculty, 1980

	Percent Agreeing with Item Among		
	White Faculty	Chicano Faculty	All Minority Faculty
There should be preferential hiring for minority faculty at this institution	34	63	64
There should be preferential hiring for women faculty at this institution	33	60	51
There is a lot of racial conflict on this campus	7	20	20
Students of different racial/ethnic origins communicate well with one another on this campus	64	60	66
Most American colleges and universities are racist whether they mean to be or not	27	65	65
Most faculty here are strongly interested in the academic problems of undergraduates	68	50	70
This institution should be actively engaged in solving social problems	45	72	71
Increases in minority enrollments result in a lowering of academic standards	46	5	9
Affirmative action, despite its underlying concern for equality, is detrimental to the viability of our colleges and universities	39	0	10

Source: Special analyses conducted at the Higher Education Research Institute.

Similarly, minority faculty were much more likely to believe that their institutions should give preferential treatment to minorities and to women in hiring.

These divergences seem in part to reflect insensitivity and lack of awareness on the part of majority faculty members; given their advantaged positions, they are simply less aware of the existence of racism and racial conflict. At the same time, some degree of "white backlash" may be manifested in their negative view of affirmative action and their unwillingness to give preferential treatment to minorities and women.

Similarly, minority faculty (including Chicanos) were much more inclined than were majority faculty to subscribe to each of six institutional goals or priorities aimed at achieving greater educational equity (Table 21). It should be noted, however, that at least two-thirds of the white respondents endorsed the goals of including minority perspectives in all courses related to American life or institutions, of recruiting and admitting minority students at least in proportion to their population in their institution's recruitment area, of committing financial resources for the support of minority admissions and remedial, social, or cultural programs, and of recruiting and hiring minority staff for top-level administrative positions not explicitly related to minority affairs. But only three in five majority respondents (compared with about nine in ten minority respondents) believed that minority faculty members should be recruited and hired at least in proportion to the representation of these groups in the student body. The least popular goal with white faculty (43 percent) and with total minority faculty (77 percent) was that of creating a high-level, visible administrative office primarily concerned with minority issues and activities on campus; however, 85 percent of the Chicano respondents approved of this goal.

Table 21

A Comparison of the Values of White and Minority Faculty, 1980

Important Institutional Goals or Priorities	Percent Agreeing with Item Among White Faculty	Chicano Faculty	All Minority Faculty
The recruitment and admission of minority students at least in proportion to their population in your recruitment area	70	95	84
The recruitment and hiring of minority faculty members at least in proportion to the representation of those groups in the student body	60	90	87
The recruitment and hiring of minority staff for top-level administrative positions which are not explicitly related to minority affairs	67	95	87
The commitment of institutional financial resources for the support of racial/ethnic minority admissions, and remedial, social or cultural programs	68	90	89
The inclusion of minority perspectives in all courses related to American life or institutions (American history, literature, music)	74	84	91
The creation of a high-level, visible administrative office or other structure which is primarily concerned with racial/ethnic minority issues and activities on campus	43	85	77

Source: Special analyses conducted at the Higher Education Research Institute.

In summary, majority faculty seemed much less aware of racism, much less concerned about minority issues, and much less committed to taking steps to achieve educational equity than were minority faculty.

Perspectives of Chicano Academic Personnel

This survey, directed at minority academic personnel only, was designed to elicit information about their personal experiences as well as their views. Among the 311 respondents were 93 Chicanos. The Chicano group included a lower proportion of women than any other group (13 percent, compared with 30 percent in the total sample) but a higher proportion of doctorate-holders (93 percent, compared with 66 percent of the total sample) and of people in the natural and health sciences. Fifty-nine percent of the Chicano sample were associate or full professors (compared with 39 percent of the total sample). Of the administrators in the Chicano group, 10 percent occupied positions related to minority concerns (e.g., affirmative action officer), and the remainder were chief executives, department chairs, and deans. Thus, about one-fourth of the Chicano sample played some leadership role in higher education. Close to three-fifths were affiliated with universities, 29 percent with four-year colleges, and only 6.5 percent with two-year colleges. Almost half the Chicano respondents (45 percent) were from California.

Respondents were asked to indicate what factors facilitated their attainment of a baccalaureate and their graduate school attendance. As Table 22 indicates, the three top-ranked facilitators of undergraduate achievement were: (1) receiving support and encouragement from their families to pursue a college education; (2) being motivated by a determination to prove they could do it; that is, they saw college as a personal challenge; and (3) having well-defined educational goals and interests and a desire to continue their education. The last of these items was mentioned more often

Table 22

Facilitators in Educational Attainment
(in percentages)

Facilitator	Baccalaureate Completion		Graduate/ Professional School Attendance	
	Chicanos	All Minorities	Chicanos	All Minorities
Family encouragement	59	66	31	32
Financial aid	38	37	46	47
Educational goals and interests	45	47	59	60
Personal challenge	46	38	37	36
Job/career and economic goals	32	34	45	50

Source: Special analyses conducted at the Higher Education Research Institute.

than any other as a facilitator of graduate/professional school attendance. In addition, financial aid and career goals were important in motivating Chicanos to pursue advanced study.

Respondents were also asked to indicate the barriers they encountered at the undergraduate and graduate levels (Table 23). The chief barriers to undergraduate achievement were: (1) financial concerns, including the need to work at an outside job in order to support themselves; (2) institutional indifference, including inadequate academic, personal, and career counseling; and (3) faculty composition and attitudes; that is, the lack of Chicano role models on the faculty, racist attitudes on the part of the faculty. At the graduate level, financial concerns and faculty attitudes continued to constitute a barrier for Chicanos; in addition, about three in ten mentioned family responsibilities and pressures as hindering their graduate attainment.

Another item on the survey asked respondents to indicate what special problems or responsibilities they had as non-Anglo professionals (Table 24). Close to half the Chicanos cited their institution's lack of commitment to the goal of recruiting minorities as students and faculty. Forty-six percent said they had difficulty gaining the acceptance and respect of their colleagues. Thirty-eight percent indicated that the lack of other minorities at their institution put an extra load on them; they felt they had to be institutional watchdogs and advocates for change.

Asked what higher education institutions could do to better serve students of their own racial/ethnic background, over half (56 percent) of the Chicano respondents recommended encouraging the college attendance of minority students by developing outreach programs to inform young people and their parents of the benefits of college and by generally improving access (Table 25). The second-ranked recommendation was that institutions hire and

Table 23

Barriers to Educational Attainment

Barrier	Undergraduate Level		Graduate/Professional School Attendance	
	Chicanos	All Minorities	Chicanos	All Minorities
Financial concerns	61	60	50	56
Faculty composition and attitudes	36	31	36	36
Institutional indifference	38	33	22	23
Family responsibilities	19	20	29	31

Source: Special analyses conducted at the Higher Education Research Institute.

Table 24

Problems or Responsibilities Encountered as Non-Anglo Professionals (in percentages)

Problem or Responsibility	Chicanos	All Respondents
Gaining acceptance and respect of colleagues	46	40
Lack of institutional/professional support for work	29	31
Being stereotyped and used as "minority expert"	29	36
Lack of other minorities on faculty	38	36
Institutional enthnocentrism	31	38
Promotion system	28	27
Lack of institutional commitment to educational equality	50	42
Professional invisibility	30	26

Source: Special analyses conducted at the Higher Education Research Institute.

Table 25

Recommendations on Ways in Which Higher Education Institutions Could Better Serve Students of Own Race-Ethnicity (in percentages)

Recommendation	Chicanos	All Respondents
Hire and promote/tenure minority faculty	43	43
Provide adequate financial aid	34	32
Encourage college attendance of more minority students	56	42
Promote understanding of minority culture	17	24
Emphasize quality	25	27
Establish/support ethnic studies	4	10
Integrate multicultural perspectives into curriculum	6	17
Demonstrate commitment to affirmative action	32	33
Provide special support services to programs for minority students	11	13
Develop academic assistance	29	31
Offer strong counseling	17	20
Work with minority communities	27	30
Accept and respect minority students	12	19
Orient minority students to college life	15	19

Source: Special analyses conducted at the Higher Education Research Institute.

promote more minority faculty, counselors, and administrators. Third in importance was providing adequate financial aid. Relatively few Chicano respondents thought that establishing and supporting ethnic studies, integrating multicultural perspectives into the curriculum, or providing special support services and programs for minority students should be top-priority goals.

Perspectives of Ford Fellows

The third source of information on the experiences of Chicano professionals came from a survey of participants in the Ford Foundation's Graduate Fellowship Program, which since 1969 has awarded 1,650 fellowships to minority graduate students. Over 600 Ford-fellowship-recipients, of whom 177 were Chicanos, completed the survey. Three-fifths of the Chicano group (compared with 53 percent of the total group) were men. Only 40 percent (compared with 54 percent for the total group of minority Fellows) had completed the doctorate by 1980; only American Indians had a lower doctorate-completion rate.

The institutional enrollment and residential patterns of the Chicano Fellows were consistent with the concentration of the Chicano population in the Southwest. Over 71 percent (the largest proportion of any minority group) had attended public institutions for their undergraduate education, a reflection of the dominant role played by public higher education in the western states. Further, Chicanos tended to select graduate institutions in the west. Fourteen percent went to Stanford; 13 percent to the University of California at Berkeley, and 9 percent to the University of Texas, Austin. The remainder had enrolled at institutions throughout the country. Moreover, 72 percent were living in the West and Southwest at the time of the survey.

A primary purpose of the Ford Fellowship Program was to give minority

graduate students enough financial support so that they would have free choice in selecting a graduate program. The program seems to have achieved this purpose, in that a large proportion of the respondents, including 85 percent of the Chicanos, indicated that the fellowship had enabled them to attend their first-choice institution. Other factors enabling them to attend their first-choice graduate institution were the offer of a job (e.g., a teaching or research assistantship), mentioned by 71 percent of the Chicano respondents, and the receipt of a loan, mentioned by 51 percent.

Eighty-four percent of the Chicano respondents (compared with 76 percent of the total group) said they had worked at some point during their graduate training; and 62 percent of the Chicanos (compared with 55 percent of the total group) said their employment was related to their doctoral program. Nearly one-half of the Chicano Fellows received a loan while in graduate school, and one-quarter were further subsidized by other institutional forms of support such as fellowships and assistantships; these proportions are similar to those for the total group. Chicanos were less likely than others to indicate that they got support from their parents or families.

Consistent with the findings on the representation of Chicanos in various major field categories (Chapter 6), 37 percent of the Chicano Fellows specialized in social science, 15 percent in education, and 15 percent in the humanities; only 9 percent were in the biological sciences, and only 7 percent in the physical sciences. This distribution is roughly similar to that of the total group.

One-half of the Chicano Fellows reported that they had a faculty mentor while in graduate school; of this group, three-fifths reported that their faculty mentor was a minority-group member. Again, these figures are similar to those for the total group. Apparently minorities are represented to some

degree, however slight, on the faculties of the nation's research universities. Chicanos were less likely than any other group of Fellows to be satisfied with the quality of the academic advising they received: Only 28 percent (compared with 37 percent of the total group and 54 percent of the Blacks who had attended historically black undergraduate institutions) rated the quality of the advising as very good. Over half the Chicano Fellows believed that receiving the award had a positive effect on their relationships with departmental faculty, but only 30 percent believed that it had a positive effect on their relationships with other graduate students.

Chicanos, followed by American Indians, seem to have encountered the most difficulty, and Blacks the least, during their graduate training. For instance, about two in five Chicano Fellows reported that deficiencies in writing skills created problems for them. Chicanos were also more likely than either Blacks or Puerto Ricans to indicate that they had had difficulty with research methods, the doctoral-proposal oral examination, and dissertation writing. These findings suggest that Chicanos need better preparation in verbal and writing skills prior to their graduate education.

Asked to identify the most positive and gratifying aspects of their graduate experience, Chicanos were somewhat more likely than others to mention interaction with students, including other minority students. Conversely, racial discrimination, financial problems, and personal stress or uncertainty were most commonly mentioned as negative aspects of the graduate experience.

Of those Chicanos who were employed at the time of the survey (56 percent, compared with 65 percent of the total sample), about three-fifths worked in academic institutions, 13 percent in the private sector, 10 percent in government agencies, 6 percent in public service organizations, 5

percent in elementary or secondary schools, and 4 percent in research organizations.

The majority (62 percent) of academically employed Chicanos worked in universities, 36 percent worked in four-year colleges, and only one worked in a two-year college. As Table 26 indicates, about three-fifths were in tenure-track positions, but only 13 percent (compared with 22 percent for the total sample) had actually been granted tenure. Their distribution in the various academic ranks was about the same as the distribution for the total group of Ford Fellows.

Summary

Evidence from Chicano professionals--including faculty members, administrators, and Ford Fellows--indicates that U.S. academic institutions are often guilty of racism and discrimination in their treatment of minority students and faculty. Thus, Chicano faculty were more likely than were white faculty to view colleges and universities as racist and were much more committed to goals of educational equity. Chicano faculty cited examples from their own experience of their feelings of isolation and alienation both as students and as faculty members. Half the Ford Fellows said they did not have the advantage of a faculty mentor during their graduate training. Chicano professionals were inclined to see increases in the numbers of minority students and faculty members as the best solution to the difficulties they had faced.

Table 26

Academic Rank and Employment of Ford Fellows[a]
(in percentages)

	Chicanos	All Respondents
Academic employment:		
Hold full-time position	79	81
Hold a tenure-track position	61	68
Currently have tenure	13	22
Teach at two or more colleges	11	10
Academic rank:		
Instructor	21	20
Assistant professor	55	57
Associate professor	20	19
Full professor	2	4

Source: Special analyses conducted at the Higher Education Research Institute.

[a]Based on respondents who indicated current academic employment.

CHAPTER 8

CHICANAS IN HIGHER EDUCATION

This chapter, based on data from the longitudinal file on 1971 freshmen who were followed up in 1980, focuses on Chicanas in higher education: their background characteristics, their aspirations and plans, their attitudes and values, and their development over the nine-year period since matriculation.

Only recently have minority women in higher education become the subjects of scholarly inquiry. So far, most of this research has focused on black women, a more numerous group than Chicanas, with a longer history of participation in higher education. Certainly, minority women share common problems that cut across racial/ethnic lines: for example, limited exposure to women who might serve as role models for achievement in a wide range of careers, poor educational preparation at the elementary and secondary level, difficulty in financing a higher education, and discriminatory treatment based on racist and sexist assumptions. It is equally true, however, that women from different minority backgrounds differ from one another: in the historical experiences of their peoples, in the roles and expectations their cultures impose on them, and in the cultural values from which they draw strength and identity.

Much of the literature on Chicanos ignores or deals superficially with the accomplishments of women. Moreover, recent books on the Chicana--for example, Essays on la Mujer (1977) and La Chicana (1979)--concentrate on her role and position in the family and the larger community, on her image in literature, and on her personal development; they touch only lightly on her educational and career development.

To some extent, research published in the last five years or so has sought to refute myths and misconceptions about Chicanas and to correct

biases and omissions in the literature. Chicanas have been active in this effort to set the record straight and to win recognition for the contributions that women have made and are making within their communities. The popular stereotypes of Chicanas are a source of irritation to contemporary women, whose own sense of identity is linked with that of earlier generations of women and who suffer the residual effects of these persistent stereotypes in the way people treat them.

Chicanas seem to place a high value on their role as women, preserving and transmitting their culture in the face of pressures toward assimilation into the dominant society, and on the extended family structure that characterizes Chicano culture. Indeed, many seem to feel that role differentiation and the maintenance of family solidarity are critical to cultural survival. Even though their first allegiance is to the cause of their people, however, they are at the same time voicing their concerns as women within the Chicano culture. Vasquez (1980) observes: "Mexican-American women are involved in dual strategies of attaining equity within the context of the family and as minority group members in the larger society" (p. 11).

As was pointed out in Chapters 3 and 4, the educational attainment of Chicanos lags behind that of non-Hispanic Whites. According to data collected in 1976, 34 percent of white men and 22 percent of white women who were 25-29 years old had completed four or more years of college; the comparable figures for Chicanos were 11 percent of the men and 5 percent of the women (U.S. Commission on Civil Rights, 1978). Thus, not only is the gap in educational attainment between Whites and Chicanos significant, but also the women in each population have less education than the men, and the discrepancy between the sexes is greater among Chicanos than among Whites.

The discussion that follows is based on a sample of 607 Chicanos, of whom 296 (49 percent) were women. Among all freshmen entering college in 1971, women constituted only 46 percent. Approximately half the Chicano sample had completed the 1980 follow-up questionnaire; the remainder were interviewed by telephone. Information on family and high school background, educational and career goals, and attitudes and values was collected at college entry (1971). Information about college experiences and outcomes was collected in 1980 or was derived by comparing the individual's 1971 and 1980 responses to similar or identical questions. (For further details on the sample and methodology, see the appendix.) Comparison data on Chicano men and on all 1971 freshmen (of whom 92 percent of the men and 91 percent of the women were white) will be introduced throughout the discussion as a context for understanding these data on Chicanas.

Descriptive Profile

As was pointed out in Chapters 3 and 4, Chicanos tend to come from relatively low socioeconomic backgrounds. Table 27 indicates that over half of the Chicanos who entered college in 1971, compared with only about one-fifth of all entering freshmen, reported parental incomes of less than $8,000. Conversely, close to one-fifth of all freshmen, but only 3.8 percent of the Chicano men and 2.3 percent of the Chicanas, reported parental incomes of $20,000 or more. The obvious economic disadvantagement of the Chicano sample, especially the women, is reflected in the proportions expressing major concern over their ability to pay for a college education: 24 percent of the Chicanas and 21 percent of the Chicano men. By way of contrast, among all freshmen, 9.7 percent of the men and 11.2 percent of the women expressed major concern over finances. In short, Chicanos were much more likely than were all freshmen to face financial difficulties because

Table 27

Parental Income, 1971, by Sex
(in percentages)

Income Level	All Freshmen		Chicanos	
	Men	Women	Men	Women
Less than $4,000	4.9	5.9	18.6	13.5
$4,000-$5,999	6.4	7.2	19.6	24.3
$6,000-$7,999	9.8	9.8	12.2	16.9
$8,000-$9,999	12.9	12.1	16.1	11.1
$10,000-$12,499	18.5	17.7	18.0	16.6
$12,500-$14,999	14.6	13.6	6.4	7.4
$15,000-$19,999	14.6	13.9	5.1	7.8
$20,000-$24,999	7.9	8.4	1.6	1.7
$25,000-$29,999	3.7	4.0	0.6	--
$30,000-$34,999	2.2	2.7	1.0	0.3
$35,000-$39,999	1.2	1.5	0.6	0.3
$40,000 or more	3.4	3.3	--	--

Source: Cooperative Institutional Research Program

of their low-income backgrounds, and this was particularly true for women.

On the other hand, as Tables 28 and 29 show, Chicanas tended to come from slightly higher socioeconomic backgrounds than did Chicano men in terms of parental education: 86 percent of the men, but only 80 percent of the women, indicated that their fathers had not gone beyond high school. Conversely, 8.4 percent of the Chicanas, but only 5.1 percent of the Chicano men, had fathers with a baccalaureate or advanced degree. In fact, many of the freshmen entering college in 1971 were first-generation college students: 57 percent of the men and 53 percent of the women in the total group said their fathers had no more than a high school education. Thus, the sex difference held for all freshmen; that is, women were more likely than men to have well-educated fathers. Fewer mothers than fathers had gone beyond high school or attained a baccalaureate or higher degree. Nonetheless, once again, the women (including Chicanas) tended to have more highly educated mothers than the men.

This educational profile indicates that, overall, the Chicano sample in this study came from more educated families than is typical of the total Chicano population. To some extent, this reflects biases in our sample; but it also suggests that more educated parents, in addition to serving as role models, expect and encourage their children to equal or excel their own educational achievements. They certainly seem to exert a positive influence on their daughters.

High School Preparation

The adequacy of one's high school education is a major determinant of whether one goes to college, where one goes to college, and how well one does in college. Although the majority of Chicanos in our sample attended public high school, about one-fifth of the women and 16 percent of the men

Table 28

Father's Education, 1971, by Sex
(in percentages)

Educational Level	All Freshmen		Chicanos	
	Men	Women	Men	Women
Grammar school or less	8.8	8.8	42.8	37.2
Some high school	16.7	14.9	26.7	26.0
High school graduate	31.9	29.7	16.1	16.6
Some college	16.4	17.4	9.3	11.8
College degree	17.6	19.4	3.5	5.4
Postgraduate degree	8.7	10.0	1.6	3.0

Source: Cooperative Institutional Research Program.

Table 29

Mother's Education, 1971, by Sex
(in percentages)

Educational Level	All Freshmen		Chicanos	
	Men	Women	Men	Women
Grammar school or less	5.3	5.4	37.9	40.2
Some high school	13.6	13.2	26.0	24.0
High school graduate	47.0	42.6	27.0	23.3
Some college	16.8	19.3	6.4	7.8
College degree	14.4	16.2	2.3	4.1
Postgraduate degree	2.8	3.4	0.3	0.7

Source: Cooperative Institutional Research Program.

had attended a private, religious high school. Given that about seven in ten of the Chicanos in our sample had been raised as Catholics, this finding is not surprising.

Women generally earn higher grades in high school than men, and this was true for both the total freshman group and for the Chicano sample in this analysis (Table 30). Thus, about two in five Chicano men, but only 23 percent of the Chicanas, made grade averages of no better than C in high school. However, the grade averages reported for Chicanas were slightly lower than those fo all female freshmen.

Respondents to the 1971 freshman survey were asked to indicate whether they felt they would need special tutoring or remedial work in selected subjects. As Table 31 shows, Chicanos were more likely than were all freshmen to express a need for remediation in all subjects except foreign languages. Women (including Chicanos) seemed more confident of their preparation in English, reading, and foreign languages, whereas men (including Chicanos) seemed more assured of their preparation in mathematics and science.

College Choice

As was pointed out earlier, Chicanos are disproportionately enrolled in two-year colleges. In our sample, the enrollment patterns of Chicanas differed from those of Chicano men: Only 46 percent of the women, compared with 52 percent of the men, entered two-year colleges; 35 percent (compared with 23 percent of the men) entered four-year colleges; and only 19 percent (compared with 25 percent of the men) entered universities.

Chicanas were much more likely than were women-in-general to attend college near their homes: For instance, close to three-fourths of the Chicanas (compared with about half of all freshman women) went to institutions

Table 30

Average High School Grades, 1971, by Sex
(in percentages)

Grade Averages	All Freshmen		Chicanos	
	Men	Women	Men	Women
A	11.3	19.4	7.4	11.2
B	54.7	63.7	53.3	66.1
C	33.0	16.6	38.3	22.7
D	0.9	0.2	1.0	0.0

Source: Cooperative Institutional Research Program.

Table 31

Need for Special Tutoring or Remedial Work in Selected Subjects, 1971, by Sex (in percentages)

Subject	All Freshmen		Chicanos	
	Men	Women	Men	Women
English	21.0	10.8	33.1	24.3
Reading	12.5	8.3	13.8	7.8
Mathematics	33.9	38.4	47.9	51.0
Social studies	3.4	4.2	7.4	8.8
Science	16.1	26.8	29.9	33.4
Foreign language	24.2	16.7	12.9	10.5

Source: Cooperative Institutional Research Program.

within 50 miles of their homes; and almost two-fifths (compared with 23 percent of all freshman women) went to colleges within ten miles of home. This tendency is probably attributable to their heavy enrollment in two-year colleges (which are usually "commuter" campuses), the financial constraints they face (which make living away from home a too-costly option), and their desire to stay close to their families and communities. Anecdotal information from college-educated Chicanos suggests that some Chicano parents are extremely reluctant to allow their daughters to leave home in order to attend college.[1]

Asked to indicate the importance of each of eleven factors in their decision to attend college, Chicanos were more inclined than were freshmen-in-general to say that a given factor was "very important" (Table 32). A substantially larger proportion of Chicanos than of all freshmen said they were going to college so they could contribute more to their community, improve their reading and study skills, become more cultured, and prepare for graduate or professional school.

The top-ranked reason for college attendance among women (including Chicanas) was "to learn more about things that interest me"; the top-ranked reason among men (including Chicanos) was "to be able to get a better job." In addition, women in both the total sample and the Chicano sample gave more emphasis than did their male counterparts to gaining a general education, becoming more cultured, and meeting new people, whereas men in both samples gave higher priority to being able to make more money and preparing for graduate or professional school. Thus, consistent with sex stereotypes, the men gave more materialistic and "practical" reasons for pursuing a

1. This information comes from interview data collected in connection with a HERI study of Minority Women in Mathematics and Science.

Table 32

"Very Important" Reasons for Going to College, 1971, by Sex
(in percentages)

Reason	All Freshmen		Chicanos	
	Men	Women	Men	Women
My parents wanted me to go	21.9	24.1	30.5	29.7
To be able to contribute more to my community	15.0	23.1	28.9	31.4
To be able to get a better job	77.0	70.1	82.0	72.6
To gain a general education and appreciation of ideas	533	66.8	62.1	74.0
To improve my reading and study skills	21.7	22.7	38.6	43.2
There was nothing better to do	2.2	2.3	1.6	2.7
To make me a more cultured person	24.5	34.0	39.5	48.6
To be able to make more money	57.0	41.5	59.8	45.3
To learn more about things that interest me	64.5	73.9	72.0	83.1
To meet new and interesting people	36.3	55.3	39.5	56.4
To prepare myself for graduate or professional school	38.9	29.3	51.4	47.0

Source: Cooperative Institutional Research Program.

college education, and the women seemed to be more motivated by humanistic considerations.

The Chicanas in our sample were distinguished from women-in-general by their greater tendency to cite traditional "liberal arts" reasons for attending college (gaining a general education and appreciation of ideas, becoming more cultured, learning more about things that interest them). They were also more likely to say they were attending college because their parents wanted them to, because they wanted to contribute to their community, and because they wanted to prepare for graduate or professional school. Indeed, 47 percent of the Chicanas, compared with only 29 percent of all women, mentioned this last reason, suggesting that the small proportions of Chicanas who do attend college have high aspirations.

Aspirations and Plans

Data on initial degree aspirations do not entirely confirm this inference. As Table 33 indicates, about one-third of the Chicanas in our sample planned to get an advanced degree, compared with close to half of the Chicano men and with 36 percent of all freshman women. Women (including Chicanos) were more likely than men to aspire to no more than an associate degree or a baccalaureate and less likely to aspire to a doctorate or a professional degree. Among Chicanos, however, the proportions of men and women who planned to get a medical degree (M.D., D.D.S., D.O., D.V.M.) were about equal.

Entering freshmen were asked to indicate their probable major field of study and their probable career. As Table 34 shows, the top-ranked major field choices (including the "other" category) among Chicanos were arts and humanities (named by 20 percent as their intended major), social sciences

Table 33

Initial Degree Aspirations, 1971, by Sex
(in percentages)

	All Freshmen		Chicanos	
	Men	Women	Men	Women
None	6.5	6.6	6.1	5.1
Associate	8.3	12.5	9.3	11.8
Baccalaureate	33.8	41.8	35.0	45.9
Master's	25.4	26.6	26.0	23.6
Doctorate	9.7	5.2	11.3	3.7
Medical (MD, DDS, DO, DVM)	6.9	2.6	4.5	4.4
Law (LLB, JD)	5.6	1.2	5.1	2.0
Divinity	0.5	0.1	0.6	--
Other	3.5	3.5	1.9	3.4

Source: Cooperative Institutional Research Program.

Table 34

Probable Major Field of Study of Chicano Freshmen, 1971, by Sex
(in percentages)

Field	Men	Women
Business	9.7	4.5
Engineering	14.2	0.7
Biological sciences	2.2	2.2
Physical sciences	4.9	2.2
Premedical	7.1	5.6
Education	7.5	16.4
Allied health	3.7	4.1
Arts and humanities	6.7	20.5
Social sciences	17.6	18.7
Prelaw	7.1	0.7
Nursing	1.1	4.1
Other	18.0	20.1

Source: Cooperative Institutional Research Program.

(19 percent), and education (16 percent). Top-ranked among Chicano men were social sciences (18 percent), engineering (14 percent), and business (10 percent). Besides the two latter majors, Chicano men were more likely than Chicanas to name physical sciences and prelaw as probable majors; besides education and arts and humanities, Chicanas were more likely than their male counterparts to name nursing and allied health. But the proportions of Chicano men and women saying they intended to major in social sciences, biological sciences, or premedical curricula were similar.

Looking at freshman career plans (Table 35), we find clear sex differences. Women (including Chicanas) were more likely than men to name artist, elementary or secondary school teacher, health professional and nurse as their intended career, and less likely to name businessperson, doctor, engineer, farmer, lawyer, and research scientist. Indeed, Chicanas seemed somewhat more attracted to traditionally female careers than did women-in-general. Conversely, they showed less interest in such male-typed careers as businessperson and engineer. There are two exceptions to their apparent traditionality: Chicanas were more likely than were female freshmen-in-general to say they planned to become physicians (or dentists) and lawyers.

Outcomes Nine Years After Matriculation

Estimated baccalaureate completion rates for Chicanos and Whites in the study are shown in Table 36. Nine years after matriculation, only two-fifths of the Chicanos who had entered college in 1971, compared with 56 percent of the Whites, had earned at least a baccalaureate. Chicanos who had entered four-year colleges in 1971 had the highest rate of completion (indeed, only two percentage points lower than the rate for Whites), whereas both Chicanos and Whites who had entered two-year colleges had very low completion rates. The completion rates for the Chicano sample discussed in this chapter were

Table 35

Freshman Career Choice, 1971, by Sex
(in percentages)

Career Choice	All Freshmen		Chicanos	
	Men	Women	Men	Women
Artist (creative/performing)	4.9	7.2	3.2	8.3
Businessperson	16.1	4.4	10.7	1.6
Clergy	1.0	0.2	--	0.4
College teacher	0.8	0.6	2.0	0.8
Doctor (physician, dentist)	6.4	2.0	5.5	4.7
Elementary or secondary school teacher	7.5	24.8	11.1	30.8
Engineer	9.7	0.2	11.0	--
Farmer/forester	4.8	0.7	3.6	0.4
Health professional	3.8	8.8	4.8	5.6
Lawyer	6.8	1.4	8.3	2.7
Nurse	0.3	8.6	0.8	4.3
Research scientist	3.3	1.5	2.8	1.2
Other	21.7	26.1	26.4	32.5
Undecided	12.9	13.5	10.2	7.0

Source: Cooperative Institutional Research Program.

slightly higher than the figures in Table 36, since the sample includes a large proportion of Chicanos who returned a questionnaire, and questionnaire respondents are generally known to be higher achievers than those who fail to complete and return mailed surveys.

Examining the educational progress of Chicanas for whom both 1971 and 1980 data were available, we find that, of those who as freshmen aspired to the baccalaureate as their highest degree, approximately three-fifths had achieved or exceeded that degree objective. Of those who had initially aspired to a master's degree, one-fourth had attained that objective. One-fifth of those Chicanas who had initially aspired to a law or medical degree had earned an advanced professional degree by 1980.

Educational aspirations change over time. For example, four-fifths of those Chicanas who as freshmen had said they planned to earn no degree had in fact gone on to earn a vocational certificate, an associate degree, or a baccalaureate. On the other hand, of those who initially aspired to the doctorate, 30 percent had yet to earn a baccalaureate. It is, of course, easier to achieve a modest than an ambitious goal, but the women who started out with high aspirations were generally likely to end up achieving more than those whose aspirations were limited to begin with.

Nine years after matriculation, some of our respondents were still pursuing educational goals: Almost two-fifths of the Chicano men and women in our sample reported that they were working toward a postsecondary certificate or degree at the time of the survey. Some were still pursuing the degree which had been their goal when they entered college, while others seem to have changed their goals. The only sex difference within the Chicano sample is that, among those pursuing advanced training, women were more likely to be working toward a master's degree, and men toward a professional degree.

Table 36

Estimated Baccalaureate Completion Rates in 1980 for Whites and Chicanos Who Entered College in 1971, by Type of Institution (in percentages)

	All Institutions	Universities	Four-Year Colleges	Two-Year Colleges
Chicanos	39.7	62.6	70.4	19.5
Whites	55.6	73.3	72.7	29.0

Source: Astin, 1982.

Changes in Self-Esteem

We were interested not only in the educational achievements of the Chicanas in our sample but also in their noncognitive development. Past research (Astin, 1978) indicates that the self-esteem of college students increases over time, though it is not clear to what extent that increase is attributable to the impact of college and to what extent it is the result of maturation or of experiences outside of college.

Both the 1971 freshman survey and the follow-up questionnaire included an item asking respondents to rate themselves in comparison with the average person of their age on a number of traits and abilities. Table 37 shows the proportions of Chicanas rating themselves in the top 10 percent on each of these traits in 1971 and in 1980, and the degree of change (in percentage points). As the figures for 1971 indicate, the self-esteem of Chicanas when they began college was rather low. That 17 percent rates themselves high on drive to achieve indicates that they perceived themselves as more motivated and more determined to succeed than most of their peers (many of whom probably did not go on to college), but otherwise they did not seem to regard themselves as outstanding.

By 1980, their self-image had improved. On each of the ten traits, the proportions rating themselves in the top 10 percent increased over the nine-year span, and the increase was most marked for leadership ability. The conclusion seems to be that college gave these women an opportunity to exercise and develop their intellectual and social competencies.

Different types of institutions seem to have different effects. Public universities have their most positive impact on self-ratings of academic ability and social self-confidence; public four-year colleges, on perceived leadership ability and social self-confidence; and private four-year colleges

Table 37

Changes in the Self-Esteem of Chicanas[a] Between 1971 and 1980
(in percentages)

Self-Rating	1971	1980	Difference
Academic ability	6.2	13.4	+7.2
Artistic ability	1.0	7.1	+6.1
Drive to achieve	16.8	21.9	+5.1
Leadership ability	5.1	16.3	+11.2
Math ability	2.6	4.6	+2.0
Popularity	2.6	10.7	+8.1
Public speaking ability	3.1	5.6	+2.5
Intellectual self-confidence	5.6	11.2	+5.6
Social self-confidence	5.1	13.3	+8.2
Writing ability	1.6	9.7	+8.1

Source: Special analyses conducted at the Higher Education Research Institute.

[a]Proportions rating themselves in the top 10 percent.

on perceptions of academic ability, drive to achieve, leadership ability, and intellectual self-confidence. The smallest changes were registered by Chicanas who had attended public two-year colleges, although their confidence in their writing and mathematical skills increased somewhat.

Various explanations can be advanced for these differential institutional effects. The generally positive effect of private four-year colleges may be attributable to the small size of these institutions, their emphasis on undergraduate teaching over research and scholarship, and their warm and friendly atmosphere. Further, private four-year colleges often have a larger proportion of women on the faculty and in the administration than is the case with other types of institutions; thus, female undergraduates have role models for achievement. Finally, many private four-year colleges are Catholic institutions, and Chicanas may feel more comfortable and less alienated in such an environment.

But what of the positive effects of public universities, which tend to be large and impersonal, the very antithesis of the small liberal arts colleges? Anecdotal information suggests an explanation: Chicanas enter these institutions feeling considerable anxiety over their inadequate preparation; when they discover that they can perform as well as others in this competitive atmosphere, their confidence in their own academic ability increases. The improvement in social self-confidence registered by Chicanas who attend public universities and four-year colleges may be related to the relative lack of restrictions and regulations at such institutions, their more diverse student populations, and the greater opportunities they offer for the exercise of social skills in a variety of situations.

Changes in Life Goals

Changes in values (as reflected in life goals) over the nine-year period were also investigated. Table 38 shows the proportions of Chicanas, in 1971 and in 1980, indicating that each of eight life goals was essential to them; the difference between these proportions is given in percentage points.

The most dramatic change over the nine-year period involved the goal of becoming a community leader. Top-ranked in 1971 (endorsed as essential by one-quarter of the Chicana sample), it dropped to last place in 1980. At the same time, the more abstract goals of influencing the political structure and influencing social values increased in importance, especially among Chicanas attending private institutions. It appears that with age and experience, Chicanas may come to realize that they can improve their communities by having more power and influence in the political arena. The materialistic goals of being very well-off financially and succeeding in one's own business also increased in importance, especially among Chicanas who had attended public institutions. Thus, private institutions seem to develop the student's sociopolitical interests and values, whereas public institutions seem to foster entrepreneurial interests and values. The proportions of Chicanas giving top priority to the goals of raising a family, participating in a community action program, and becoming involved in programs to clean up the environment changed very little over the nine-year span.

Summary

About four in five of the Chicanas in our sample were first-generation college students. That their mothers tended to be somewhat better educated than the mothers of male Chicanos underscores the mother's influence on her

Table 38

Changes in the Life Goals of Chicanas, 1971-80
(in percentages)

Life Goal	1971	1980	Difference
Influencing the political structure	1.6	13.1	+11.5
Influencing social values	6.3	19.3	+13.0
Raising a family	17.5	18.5	+1.0
Being very well-off financially	5.2	14.9	+9.7
Becoming a community leader	24.7	4.6	-20.1
Being successful in a business of my own	2.6	8.8	+6.2
Participating in a community action program	9.3	9.2	-0.1
Becoming involved in programs to clean up the environment	13.0	11.0	-2.0

Source: Special analyses conducted at the Higher Education Research Institute.

[a]Proportions indicating goal was essential to them.

daughter's aspirations and achievements. Over three-fourths made A or B averages in high school. Nonetheless, a substantial proportion felt they needed remediation in mathematics, science, and English.

Chicanas were especially likely to cite as reasons for going to college such traditional liberal-arts goals as learning more about interesting subjects, gaining a general knowledge and appreciation of ideas, and becoming more cultured; a substantial proportion also wanted to improve their reading and study skills and to be able to contribute to their community.

The Chicanas in our sample were somewhat less likely than were their male counterparts to enroll in community colleges and slightly more likely to enter four-year colleges. They tended to go to institutions close to home.

One-third entered college planning to get an advanced degree. By the time of the follow-up survey in 1980, about three-fifths of those initially aspiring to the baccalaureate had attained it; about one-fourth of those planning on a master's degree had received that degree; and one-fifth of those aspiring to professional degrees had realized those goals. Obviously, attainment has fallen short of actual achievement. Nonetheless, about one-third of the sample reported that they were still working toward a degree, so their eventual attainment rates may be higher.

Chicanas tended to be somewhat traditional in their major field and career choices, though they were more likely than female freshmen-in-general to aspire to law and medical degrees.

Over time, the self-esteem of college-going Chicanas increased markedly, especially insofar as self-ratings of leadership ability, popularity, social self-confidence, writing ability, and academic ability are concerned. Private four-year colleges seem to have the most positive effects on self-esteem.

Similarly, life goals changed over time. The proportions of Chicanas giving high priority to the goal of becoming a community leader dropped sharply, whereas the proportions wanting to influence social values, influence the political structure, be very well-off financially, and be successful in their own business increased. We cannot say with certainty that these changes in goals are attributable to the college experience; they may be a result of maturation or of experiences outside of college. Nonetheless, they are suggestive of the difference that college can make.

One can only hope that more Chicanas will enter college and realize their educational aspirations, thus increasing their sense of self-worth, their status within the family, and their ability to serve as leaders and active participants within their own communities.

CHAPTER 9

SUMMARY AND RECOMMENDATIONS

The following summary highlights the major points from this report on Chicanos in higher education.

Background Information

- Because statistics on Chicanos are often aggregated with statistics on other Hispanic subgroups, and because Chicanos are typically undercounted in Census surveys or simply ignored by government agencies, it is difficult to find reliable data on the Chicano population.
- Chicanos numbered an estimated 7.2 million in 1978 and accounted for approximately three-fifths of the total Hispanic population in the United States. They are concentrated in six states: California, Texas, Arizona, Illinois, New Mexico, and Colorado. They are more likely than non-Hispanics, but less likely than other Hispanic subgroups, to live in metropolitan areas.
- Chicanos are a young group (median age in 1978, 21.3 years) and tend to live in large, intact families (median size in 1978, 4.1 members). Though the majority come from Spanish-language backgrounds, only three in ten speak Spanish as their usual language.
- Chicanos tend to be disadvantaged economically. Their unemployment rates are higher than those of non-Hispanic Whites, and they tend to work in low-level jobs, especially in blue-collar, farm labor, and service occupations. Their incomes tend to be low; in 1977, close to one-quarter were below the poverty level.

academic subjects. Their degree aspirations were higher than those of majority students, their major-field preferences were about the same, but their college choice was more constrained by financial and family considerations.

- Chicano freshmen entered college with somewhat lower high school grade averages than freshmen-in-general. In addition, Chicano freshmen were more likely to be first-generation college students, to feel they would need remediation to compensate for academic deficiencies, to say they were attending college in order to gain a general education and to be able to make more money, to choose their particular institutions for its low tuition or on the advice of other people (relatives, guidance counselors), to attend a college within 50 miles of their homes, and to express major concern about their ability to pay for a college education. In addition, substantially larger proportions of Chicanos than of freshmen-in-general expected to get married while in college, to make at least a B average in college, to work at an outside job, to drop out permanently, and to be satisfied with college. Their opinions on current issues did not differ greatly from those of other freshmen, except that they were more likely to say that all public colleges should adopt open admissions. They tended to give higher priority to the life goals of participating in a community action program and being very well-off financially.
- Over the decade of the seventies, Chicanos entering the nation's colleges and universities changed in various ways. For instance, 1979 Chicano freshmen were more likely than were their counterparts in 1971 to have college-educated fathers, to make high grade averages

Representation in the Educational Pipeline

- Many Chicanos never complete secondary school. Though the high school attrition rate has been dropping in recent years, it still runs between 45 and 50 percent.
- In 1971, about two in five Chicano high school graduates entered college immediately. However, Chicanos are disproportionately enrolled in public two-year colleges and underrepresented in universities and four-year colleges (except for Catholic-controlled institutions).
- From one-fourth to one-third of Chicano college entrants actually complete a baccalaureate. This high attrition rate is attributable in large part to the overrepresentation of Chicanos in community colleges, which have been found to negatively affect student persistence.
- The transition between college and graduate/professional school does not seem to represent as serious a leakage point for Chicanos as does the transition between high school and college: The proproportion of college graduates enrolling for advanced study was roughly the same for Chicanos as for Whites.
- The proportion of Chicanos among master's- and professional-degree-recipients is roughly the same as their proportion among first-year graduate enrollments, but their rate of doctorate attainment is substantially lower than that for Whites.

Profile of Chicano Students

- Among college-bound high school juniors and seniors in the mid-1970s, Chicanos were more likely than were non-Hispanic Whites to have attended private secondary schools but less likely to have taken a college-preparatory program or to be well-grounded in

in high school, to feel confident of their preparation in academic subjects, to choose their institution because of the special programs it offered, to attend a college more than 50 miles from home, to aspire to an advanced degree, to characterize their political orientation as "middle-of-the-road" or conservative rather than liberal, and to give high priority to the life goals of being very well-off financially and writing original works. Many of these same trends were apparent among freshmen-in-general.

Factors Influencing Educational Outcomes

- Secondary school preparation--as indicated by grade average, enrollment in a college preparatory program, and development of verbal skills--seems to be a major factor in the college achievement of Chicanos.
- Chicanos from high socioeconomic backgrounds--as indicated by parental income and occupation and by mother's educational attainment--are more successful in college than do those from lower socioeconomic backgrounds. Having parents who work in relatively high-level occupations is related to graduate attainment, as is intellectual self-confidence.
- The student's own predictions--about the likelihood of dropping out, being satisfied with college, and needing personal counseling--are related to subsequent behavior.
- Chicanos who attend public or private two-year colleges were likely to drop out; those who attend private universities are likely to make low grade averages and to feel dissatisfied with college; and those who attend high-quality institutions (as indicated by prestige, selectivity, tuition, per-student educational expenditures,

and faculty salary) are likely to persist.

Career Choice and Development

- Among Chicanos as among all entering freshmen, business became a more popular career choice during the 1970s, whereas teaching declined in popularity. In addition, the proportions of Chicano freshmen planning to become physicians, lawyers, or allied health professionals increased.
- Close to three in five Chicanos changed their career choice between the freshman and the junior year of college. The careers of businessperson, college professor, allied health worker, and computer programmer became more popular; the careers of artist, medical professional, elementary or secondary school teacher, and lawyer became less popular.
- At every level of higher education, Chicanos are overrepresented in the fields of education, social sciences, and arts and humanities; they are underrepresented in the physical sciences and mathematics and in the biological sciences. Chicanos are also fairly well represented among recipients of law and medical degrees.

Chicano Professionals

- On questions related to minority issues, the views of Chicano (and other minority) faculty contrast sharply with the views of white faculty: Minority faculty were much more likely to perceive U.S. colleges and universities as racist and to believe that institutions should take positive action to remedy social inequity.
- Chicano academic personnel emphasized family support, personal challenge, financial aid, and educational and career goals as motivating factors in their undergraduate and graduate study.

- Financial concern, institutional indifference, and faculty composition and attitudes were perceived as barriers to educational attainment by Chicanos.
- As non-Anglo professionals, Chicano academic personnel felt they faced special problems, including lack of institutional commitment to recruiting minority students, difficulty in gaining acceptance and respect from their colleagues, and the extra duties and obligations they carried as minority-group members. They believed that higher education institutions should recruit more Chicano students and faculty and provide more financial aid.
- Chicanos who had participated in the Ford Foundation's Graduate Fellowship Program were enabled to attend their first-choice institution. They majority had worked at some point during their graduate training. Only half had a faculty mentor during graduate study. They encountered problems because of deficiencies in writing skills. Racial discrimination, financial problems, and stress were also negative aspects of the graduate experience. About three-fifths of those Chicano Ford Fellows who are currently employed work in academic institutions.

Chicanas

- About four in five Chicanas were first-generation college students. They tended to enroll in institutions close to home but were more likely than Chicano men to enroll in four-year colleges and less likely to attend two-year colleges.
- A substantial proportion of Chicanas felt they needed remediation in various subjects, especially English.

- o The career choices of Chicanas tended to be traditional and sex-stereotyped, though they were somewhat more likely than were female freshmen-in-general to aspire to law and medical degrees.
- o The self-esteem of Chicanas improved over time, with larger proportions in 1980 than in 1971 rating themselves high on leadership ability, social self-confidence, writing ability, popularity, and academic ability. Private four-year colleges seem to have the most positive effects.
- o Similarly, life goals changed over time. Nine years after matriculation, Chicanas were much less likely to give high priority to becoming a community leader but more likely to value influencing social values and the political structure, being very well-off financially, and being successful in their own business.

Recommendations

The recommendations that follow are abstracted from the recommendations formulated by the Commission and presented in the Commission's final report.

Precollegiate Education

The Commission recommends:

1. That school counselors and teachers make special efforts to assist minority students in understanding the relationship between their education and their future careers and other life options.
2. That secondary school counselors and teachers encourage minority students to enroll in college preparatory curricula and to take courses in mathematics, languages, natural science, and social science.

3. That schools routinely test new and continuing students as a basis for undertaking any remedial efforts that may be required to correct for for the effects of earlier educational deficiencies.
4. That secondary school teachers and administrators, working in close collaboration with faculty from nearby colleges and universities, define those intellectual competencies that are crucial to effective performance in college and develop tests to measure such competencies.
5. That such tests be administered on a repeated "before" and "after" basis to assess student progress and program effectiveness, in accordance with the "value-added" model.
6. That the results of such periodic testing and retesting be a major element in the accountability of school teachers and administrators; those who are demonstrably effective in assisting minority students should be more adequately compensated.
7. That the school leadership make greater efforts to ascertain and respond to the concerns of minority parents, to involve them in the operation of the schools,and to assist them in understanding the objectives, procedures, and practices of the schools.
8. That the per-student formula now used to allocate resources among public elementary and secondary schools within a school district be revised so that predominantly minority schools receive a greater share of these resources, some of which should be used to develop rigorous academic programs and associated support services for their students.
9. That higher education institutions, schools, and departments concerned with the training of elementary and secondary school teachers develop stronger academic programs designed, among other things, to increase the prospective teacher's awareness of and sensitivity to minority cultures and values.

Community Colleges

The Commission recommends:

1. That community colleges revitalize their transfer function by establishing as one option a "transfer-college-within-a-college," wherein all those students aspiring to a baccalaureate can be brought together and exposed to the same kinds of intensive educational and extracurricular experiences as are commonly available to students at residential institutions. Funding formulas may have to be revised to strengthen the "college-within-a-college."
2. That the transfer program staffs of community colleges work closely with their counterparts at senior institutions to improve articulation.
3. That transfer programs within community colleges offer intensive remediation and academic counseling.
4. That senior institutions make more effort to facilitate the transfer of community college graduates by setting aside an appropriate amount of financial aid for these students and by offering orientation and counseling to meet their special needs.
5. That in areas where senior institutions and community colleges are located close to one another, young people aspiring to a baccalaureate be encouraged to enroll in the senior institution, without prejudice to the continuing opportunity of students in two-year college who may wish to transfer to the senior institution.

Academic and Personal Support Services

The Commission recommends:

1. That colleges and universities strengthen their efforts to help underprepared minority students improve their study habits and develop their basic skills by offering tutoring, developmental courses, and academic counseling. Such efforts will not only benefit the individual student but will also help institutions financially by reducing student attrition rates.
2. That colleges and universities provide resources to establish centers where minority students can meet together for social and educational exchanges. Such centers can promote a sense of community, can help new students learn about the system, and can foster cultural identity, pride, and strength in such a way that minority students will be able to challenge as well as to enrich and broaden the traditional values of the institution.
3. That minority students themselves, as well as local minority communities, be used as a resource in providing leadership and initiatives for the organization of such academic and personal support services and that they be given a responsible role in decisions concerning their operation and management.
4. That the trustees, administrators, and faculties of colleges and universities give strong and visible support for the development of ethnic studies programs, so that the perspectives added by such programs will be available for the benefit of all students, minority and majority.

Financial Aid

The Commission recommends:

1. That, whenever possible, students with significant financial need be given aid in the form of grants rather than loans.
2. That students be given enough aid so that they do not need to work more than half time.
3. That if students are given financial aid in the form of work-study support, it be packaged in such a way that they work less than half time and, whenever possible, at on-campus jobs.
4. That federal and state legislators and policymakers support expanded grant and work-study programs.

Bilingualism

The Commission recommends:

1. That federal and state policymakers examine the goals and outcomes associated with current bilingual education policy and practice, recognizing that no child should be forced to choose between educational opportunity and cultural identity.
2. That along with pedagogical considerations the historical and juridical facts supporting group claims to language rights and cultural continuity should be kept clearly in view in these assessments. The right of national minorities to establish language and cultural objectives for themselves should be recognized in public policy and processes fostered through which informed and responsible decisions concerning

language and education can be made by the communities concerned.

3. That colleges and universities more actively promote the broad gauged, interdisciplinary, and historically grounded research necessary to inform a more rational, efficacious and humane national policy concerning language and education.

4. That elementary and secondary schools provide the instructional services and resources necessary to maintain and develop the language skills of children who enter school speaking Spanish or an Indian language if these students or their parents request such services. This recommendation in no way relieves the schools of their responsibility for providing these students with a full command of English.

5. That researchers seek to identify the instructional methods, materials, and programs, at both the precollegiate and postsecondary levels, that contribute to student performance in school and promote the development of bilingual skills.

6. That researchers seek to identify the barriers faced by college students whose command of English is limited as a result of poor instruction in the elementary and secondary schools or of recent migration to this country and to explore ways in which the educational achievement of these students can be facilitated. The lack of research related to the needs and experiences of bilingual college students frustrated the Commission's efforts to understand the dynamics of bilingualism at the postsecondary level.

7. That postsecondary educators recognize their responsibility for and commit themselves to furthering the development of bilingual skills among college students and, through their role as teacher trainers support and improve the job training of teachers already working at the elementary and secondary levels.

8. That colleges and universities acknowledge and utilize the linguistic talents of bilingual students by providing them with the training and opportunities to work part-time on community liaison and on student recruitment and orientation programs, by employing upper-division or graduate students to provide academic tutoring and personal counseling for new bilingual students who need such services, and by hiring and training students as tutors and teaching assistants in foreign language courses and as research assistants on projects concerned with studying language-related issues or with collecting data within bilingual communities. These kinds of opportunities benefit students by enhancing their involvement in the college experience and by providing them with on-campus employment that is likely to be of greater interest and value to them than many other work-study jobs, as well as benefiting the institution.

Minority Women

The Commission recommends:

1. That colleges and universities provide counseling services and personal support groups to assist minority women in overcoming the barriers that result from double standards and sex-role stereotypes.
2. That colleges and universities provide science and mathematics clinics and special courses to help minority women make up for deficiencies in preparation in these subjects, so that they will be able to consider a wider range of careers. These efforts should be additional to particular interventions at the precollege level.
3. That institutions hire and promote more minority women as faculty, administrators, and staff.
4. That institutions provide child care services on campus.
5. That institutions make an effort to involve those minority women who live at home more fully in campus life: for example, by providing dormitory space or other facilities where these women can spend time interacting with other students.

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Appendix A

1975-1977 Sample

The sample for the 1977 follow-up was drawn from students who had enrolled for the first time in fall 1975 in one of the 325 institutions participating in the Cooperative Institutional Research Program (CIRP).

The sampling design was intended to produce a sample that would include:

- o as many minority students as possible;
- o enough students from a limited number of institutions to allow for the creation of environmental variables;
- o a large proportion of students for whom SAT or ACT scores were available (a small group of students without test scores for comparison were also selected); and
- o a larger proportion of low-income white students than are actually present in the population.

To meet the first objective, all Chicanos, American Indians, Puerto Ricans, and Asian-Americans in the 1975 data base were surveyed.[1] To meet the second, 100 institutions were selected according to a random stratified design parallel to that used in the CIRP (see Table 1); predominantly black institutions were not included among the 100 institutions. All blacks with SAT/ACT scores in the CIRP institutional population (N=325), as well as all blacks in the 100 institutions, were selected. In addition, one in every five blacks who had not enrolled in the 100 institutions or who lacked test scores was chosen (see Figure 1). Other minority students attending these hundred institutions were also a part of this population.

To meet the fourth objective--having a large pool of low-income white

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1. Because of their larger numbers in the population, not all blacks were surveyed.

students--we sampled whites from the 100 institutions as follows: Among students from families with incomes below $10,000, we selected nine out of ten with test scores and one out of seven without test scores. Among students from families with incomes above $10,000, we selected one out of four with test scores and one out of thirty-three without test scores.

The final sample comprised 40,525 students. Follow-up questionnaires were sent by first-class mail to each student's home address during the second week of September 1977. During the third week of October, students who had not responded were sent a second questionnaire, along with a cover letter explaining the purposes of the study and encouraging participation. In an effort to reach students at home during the Thanksgiving recess, a third wave was mailed out on November 18.

A total of 16,657 students returned usable questionnaires. After the names of 4,052 students whose questionnaires were returned as nondeliverable were removed from the sample, the overall response rate was 45.7 percent. The original Chicano sample included 1,800 cases. We received responses from 679 which constitutes a 38 percent response rate.

1971-80 Sample

Students for the 1980 follow-up were selected from 487 participating colleges and universities in the Cooperative Institutional Research Program (CIRP) during fall 1971. This sample included 31,421 whites, 11,045 blacks, 2,336 American Indians, 2,682 Chicanos and 768 Puerto Ricans. The two mailings yielded a total of 10,704 cases or a 21 percent response rate. Four hundred and sixty-eight Chicanos responded, a 16 percent rate of return.

To supplement the sample of respondents we devised two additional procedures:

Chilton Follow-Up of Non-Respondents

In early February 1980 Chilton Research Services was contacted about conducting a telephone search and survey of the non-respondents in the 1971-1980 student follow-up. A telephone interview schedule based on the written questionnaire and the main objectives of the study was drafted by the HERI staff. The sample for the Chilton follow-up included nonrespondents to the survey: all Puerto Rican, Chicano, and American Indian nonrespondents, half the black nonrespondents, and 5,000 of the white nonrespondents. Chilton was instructed to contact the three first mentioned minority groups first, then the Blacks, and finally the Whites. This effort yielded 2,403 additional cases with information on key outcome measures. The Chicano sample interviewed included 305 cases.

Rosters

Subsequent to this form of data collection from nonrespondents, rosters were prepared of all nonrespondents plus nondeliverables from the original list of subjects and these rosters were mailed to the institutions. From each parent institution we requested that they provide us with information on each

student with respect to (a) highest degree completed; (b) number of years completed at the institution; and (c) whether the student had requested to have his/her transcript sent to another institution.

The three approaches to data collection were utilized in applying the weights to approximate the universe and thus develop estimates of educational outcomes.

Appendix B

NCES Classification of Major Fields*

Health Professions

Health professions, general
Hospital and health care administration
Nursing (baccalaureate and higher programs)
Dental specialties (work beyond first-professional degree, D.D.S. or D.M.D.)
Medical specialties (work beyond first-professional degree, M.D.)
Occupational therapy
Optometry (all optometry except O.D. degree)
Pharmacy (all pharmacy except D.Phar.)
Physical therapy
Dental hygiene (baccalaureate and higher programs)
Public health
Medical record librarianship
Podiatry or podiatric medicine (work beyond first-professional degree in podiatry, podiatric medicine, or chiropody)
Biomedical communication
Veterinary medicine specialties (work beyond first-professional degree, D.V.M.)
Speech pathology and audiology
Chiropractic (includes all chiropractic except D.C. or D.C.M.)
Clinical social work (medical and psychiatric and specialized rehabilitation services)
Medical laboratory technologies (baccalaureate and higher programs)
Dental technologies (baccalaureate and higher programs)
Radiologic technologies (baccalaureate and higher programs)
Other health profession fields

Area Studies

Asian studies, general
East Asian studies
South Asian (India, etc.) studies
Southeast Asian studies
African studies
Islamic studies
Russian and Slavic studies
Latin American studies
Middle Eastern studies
European studies, general
Eastern European studies
West European studies
American studies
Pacific area studies
Other area studies fields

*This classification scheme for major fields of study, used in collecting and reporting data for enrollments and degrees earned, is presented in: U. S. Department of Health, Education and Welfare, Education Division of NCES, A Taxonomy of Instructional Programs in Higher Education, by Robert A. Huff and Marjorie O. Chandler, OE-50064-70. Washington: GPO, 1970.

Communications

Communications, general
Journalism (printed media)
Radio/television
Advertising
Communication media (use of viodeotape, films, etc., oriented specifically toward radio/television)
Other communications fields

Fine and Applied Arts

Fine arts, general
Art (painting, drawing, sculpture)
Art history and appreciation
Music (performing, composition, theory)
Music (liberal arts program)
Music history and appreciation (musicology)
Dramatic arts
Dance
Applied design (ceramics, weaving, textile design, fashion design, jewelry, metalsmithing, interior decoration, commercial art)
Cinematography
Photography
Other fine and applied arts

Foreign Languages

Foreign languages, general (includes concentration on more than one language without major emphasis on one language and "philology and iterature" of a group of languages, such as Romance languages or Germanic languages)
French
German
Italian
Spanish
Russian
Chinese
Japanese
Latin
Greek, classical
Hebrew
Arabic
Indian (Asiatic)
Scandanavian languages
Slavic languages (other than Russian)
African languages (non-Semitic)
Other foreign languages

Letters

English, general
Literature, English
Comparative literature
Classics
Linguistics (includes phonetics, semantics, and philology)
Speech, debate,, and forensic science (rhetoric and public address)
Creative writing
Teaching of English as a foreign language
Philosophy
Religious studies (excludes theological professions)
Other letters fields

Biological Sciences

Biology, general
Botany, general
Bacteriology
Plant pathology
Plant pharmacology
Plant physiology
Zoology, general
Pathology, human and animal
Pharmacology, human and animal
Physiology, human and animal
Microbiology
Anatomy
Histology
Biochemistry (includes agricultural chemistry)
Biophysics
Molecular biology
Cell biology (cytology, cell physiology)
Marine biology
Biometrics and biostatistics
Ecology
Entomology
Genetics (includes experimental plant and animal breeding)
Radiobiology
Nutrition, scientific (excludes nutrition in home economics and dietetics)
Neurosciences
Taxicology
Embryology
Other biological sciences

Business and Management

Business and commerce, general
Accounting
Business statistics
Banking and finance
Investments and securities
Business management and administration
Operations research
Hotel and restaurant management
Marketing and purchasing
Transportation and public utilities
Real estate
Insurance
International business
Secretarial studies (accalaureate and higher programs)
Personnel management
LAbor and industrial relations
Business economics
Other business and management fields

Education

Education, general
Elementary education, general
Secondary education, general
Junior high school education
Higher education, general
Junior and community college education
Adult and continuing education
Special education, general
Administration of special education
Education of the mentally retarded
Education of the gifted
Education of the deaf
Education of the culturally disadvantaged
Education of the visually handicapped
Speech correction
Education of the emotionally disturbed
Remedial education
Special learning disabilities
Education of the physically handicapped
Education of the multiple handicapped
Social foundations (history and philosophy of education)
Educational psychology (includes learning theory)
Pre-elementary eduction (kindergarten)
Educational statistics and research
Educational testing, evaluation and measurement
Student personnel (counseling and guidance)
Educational administration
Educational supervision
Curriculum and instruction
Reading education (methodology and theory)

Reading education (methodology and theory)
Art education (methodology and theory)
Music education (methodology and theory)
Mathematics education (methodology and theory)
Science education (methodology and theory)
Physical education
Driver and safety education
Health education (include family life education)
Business, commerce, and distributive education
Industrial arts, vocational, and technical education
Agricultural education
Education of exceptional children, not classifiable above
Home economics education
Nursing education (training of school nurses and of teachers of nursing)
Other education fields

Engineering

Engineering, general
Aerospace, aeronautical, and astronautical engineering
Agricultural engineering
Architectural engineering
Bioengineering and biomedical engineering
Chemical engineering (includes petroleum refining)
Petroleum engineering (excludes petroleum refining)
Civil, construction, and transportation engineering
Electrical, electronics, and communications engineering
Mechanical engineering
Giological engineering
Geophysical engineering
Industrial and management engineering
Metallurgical engineering
Materials engineering
Ceramic engineering
Textile engineering
Mining and mineral engineering
Engineering physics
Nuclear engineering
Engineering mechanics
Environmental and sanitary engineering
Naval architecture and marine engineering
Ocean engineering
Engineering technologies (baccalaureate and higher programs)
Other engineering specializations

Mathematics

Mathematics, general
Statistics, mathematical and theoretical
Applied mathematics
Other mathematics specializations

Physical Sciences

Physical sciences, general
Physics, general (ecludes biophysics)
Molecular physics
Nuclear physics
Chemistry, general (excludes biochemistry)
Inorganic chemistry
Organic chemistry
Physical chemistry
Analytical chemistry
Pharmaceutical chemistry
Astronomy
Astrophysics
Atmosphere sciences and meteorology
Geology
Geochemistry
Geophysics and seismology
Earth sciences, general
Paleontology
Oceanography
Metallurgy
Other earth sciences
Other physical sciences

Psychology

Psychology, general
Experimental psychology (animal and human)
Clinical psychology
Psychology for counseling
Social psychology
Psychometrics
Statistics in psychology
Industrial psychology
Developmental psychology
Physiological psychology
Other psychology specialization

Public Affairs and Services

Community services, general
Public administration
Parks and recreation management
Social work and helping services (other than clinical social work)
Law enforcement and corrections (baccalaureate and higher programs)
International public service (other than diplomatic service)
Other public affairs and services specializations

Social Sciences

Social sciences, general
Anthropology
Archaeology
Economics (excludes agricultural economics)
History
Geography
Political sciences and government
Sociology
Criminology
International relations
Afro-American (black culture) studies
American Indian cultural studies
Mexican-American cultural studies
Urban studies
Demography
Other social sciences

Appendix C

Survey of Minority Educators

Utilizing a modified Delphi technique a sample of 548 minority educators representing the four underrepresented minority groups were mailed an open-ended questionnaire during spring 1980 designed to assess their perceptions and attitudes about barriers and facilitators of educational attainment for minorities.

The open-ended responses were coded and summarized, and a second form of the questionnaire was developed with response choices to each item. This was mailed to the original sample in summer 1980.

Responses to this second form of the questionnaire designed to identify consensus views among minority educators were received from 73 Blacks, 93 Chicanos, 88 American Indians, and 58 Puerto Ricans.

Ford Foundation Fellows

In the summer of 1980, HERI staff mailed questionnaires to 1,350 minority fellowship recipients since 1969, the year the Ford Foundation established this program. Of this pool, 471 (34.9 percent) questionnaires were returned as undeliverables. Excluding these undeliverable questionnaires, the 630 completed ones yield a 71.7 percent response rate of return among the respondents. There were 177 Chicano fellowship recipients. The questionnaire was designed to elicit information on the fellows regarding their background characteristics, graduate school experiences, and current employment status.

Faculty Survey

A questionnaire designed to elicit information on background characteristics, education, employment, attitudes and values was mailed in spring 1980 to all academic personnel (N=27,791) identified in a representative sample of 96 institutions.

The original mailing and two follow-ups to nonrespondents yielded 9,400 usable questionnaires. Excluding the 1,530 nondeliverable questionnaires, the rate of return was 36 percent.